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MONTHLY  
MICROCLIMATIC SUMMARY

MAY 1967

ENVIRONMENTAL DATA BASE  
FOR REGIONAL STUDIES IN THE HUMID TROPICS

USATECOM Project No 9-4-0013-01

US ARMY  
TROPIC TEST CENTER  
Fort Clayton, Canal Zone

Sponsored by

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FOR REGIONAL STUDIES IN THE HUMID TROPICS

MONTHLY  
MICROCLIMATIC SUMMARY

MAY 1967

Prepared by

Michael A. Fradel, Project Officer  
and  
Dr. Wilfried K. Portig, Meteorologist

USATECOM Project No. 9-4-0013-01

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Fort Clayton, Canal Zone  
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## MONTHLY MICROCLIMATIC SUMMARY

### Introduction

Monthly microclimatic data summarized in this series of reports were collected by the US Army Tropic Test Center and the Weather Engineers of Panama Corporation under the project, Environmental Data Base for Regional Studies in the Humid Tropics. The project is sponsored by the Advanced Research Projects Agency of the Department of Defense and by the Army Research Office, Office of the Chief of Research and Development. It is an investigation of microclimatic, air chemistry, vegetation, soils, microbiological, and macrofaunal conditions at selected sites in the principal tropical environments of the Panama Canal Zone and the Rio Hato Military Reservation. The objective of the project is to assemble quantitative environmental data for RDT&E purposes.

Sites. Data summarized in this report were collected at the Albrook Forest and Chiva Chiva sites. Figure 1 shows the site locations within the Isthmus of Panama. Geographic coordinates are shown below:

Albrook Forest       $09^{\circ} 01'N$ ,  $79^{\circ} 33'W$

Chiva Chiva       $09^{\circ} 01'N$ ,  $79^{\circ} 35'W$

The Chiva Chiva open site and the Albrook Forest site are paired for comparative study of environmental conditions in a tropical semideciduous forest and in a large clearing. Both are located in a region where the annual precipitation is approximately 80 inches and there is a pronounced dry season.

The Albrook and Chiva Chiva main sites are approximately four kilometers apart. Each has a 46-meter walk-up tower and an air-conditioned building to house the recording equipment and observers. Both sites are approximately 30 meters above sea level. The top of the forest canopy at the Albrook site is about 26.5 meters above the ground.

Instrumentation. A wide range of climatic elements are measured at the Albrook and Chiva Chiva sites. Types of observations and frequencies are shown on Figure 2. The towers at the Albrook and Chiva Chiva sites are similarly oriented. Sensing equipment is mounted at several levels on the towers to provide measurements through the vertical profile. Additional instruments are emplaced in the immediate vicinity on or near the ground. All instrument exposures are duplicated at each site. Figures 3, 4, and 5 show the instrument array at these sites.

Data Reduction and Storage. All data, as applicable, are recorded at or reduced to each full hour and transposed to punch cards. These punch cards, together with all raw data, are stored in the Tropic Test Center Technical Library Annex.

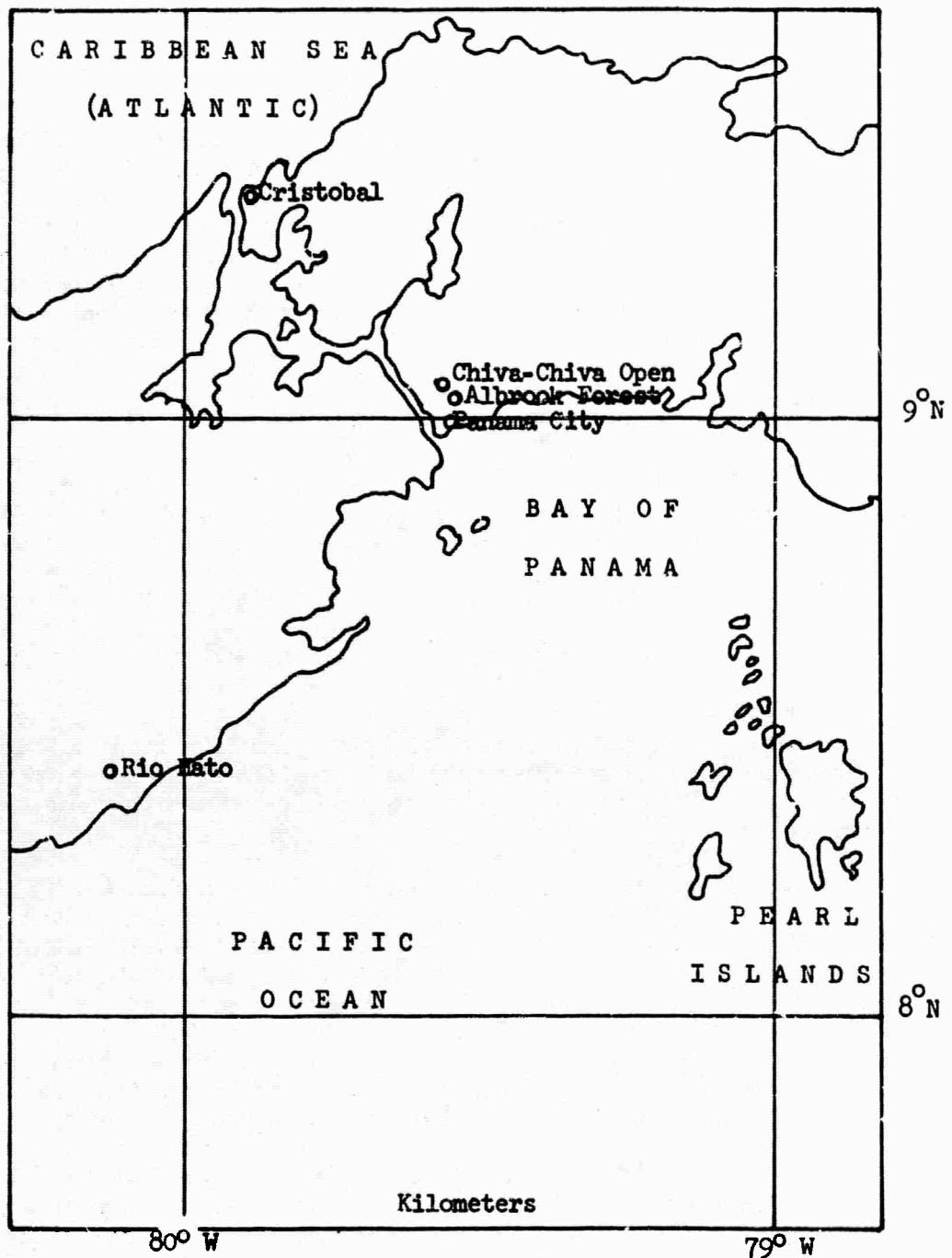


FIGURE 1. LOCATION MAP, Isthmus of Panama

FIGURE 2. FREQUENCY OF OBSERVATIONS

| Height (meters)     |     |     |     |     |     |                       |
|---------------------|-----|-----|-----|-----|-----|-----------------------|
| # Element           | Sfc | 0.5 | 1.0 | 2.0 | 4.0 | 8.0                   |
| Temperature:        |     |     |     |     |     |                       |
| Dry Bulb            | 1   | 1   | 1   | 1   | -   | 1                     |
| Wet Bulb            | -   | 1   | -   | 1   | -   | -                     |
| Grass Minimum       | 3   | -   | -   | -   | -   | -                     |
| WBGT Index          | -   | -   | 1   | -   | -   | -                     |
| Relative Humidity   | -   | 1   | 1   | 1   | -   | 1                     |
| Barometric Pressure | -   | -   | 1   | -   | -   | -                     |
| Evaporation         | 1   | -   | -   | -   | -   | 2                     |
| Precipitation:      |     |     |     |     |     |                       |
| Recording Gage      | -   | -   | 1   | -   | -   | -                     |
| Manual Gage         | -   | -   | 2   | -   | -   | -                     |
| Stem Flow           | -   | -   | 2   | -   | -   | -                     |
| Wind:               |     |     |     |     |     |                       |
| Direction           | -   | -   | -   | 3** | 1   | -                     |
| Speed               | -   | -   | -   | -   | 3** | 1**                   |
|                     |     |     |     |     | 1   | 1                     |
|                     |     |     |     |     |     | Hourly**/Continuously |

1. Albrook and Chiva Chiva
2. Albrook only
3. Chiva Chiva only

\* Observations made with sling psychrometer when recorders are inoperative.

\*\* Hourly

# Instrument descriptions are contained in the Environmental Data Base semiannual reports.

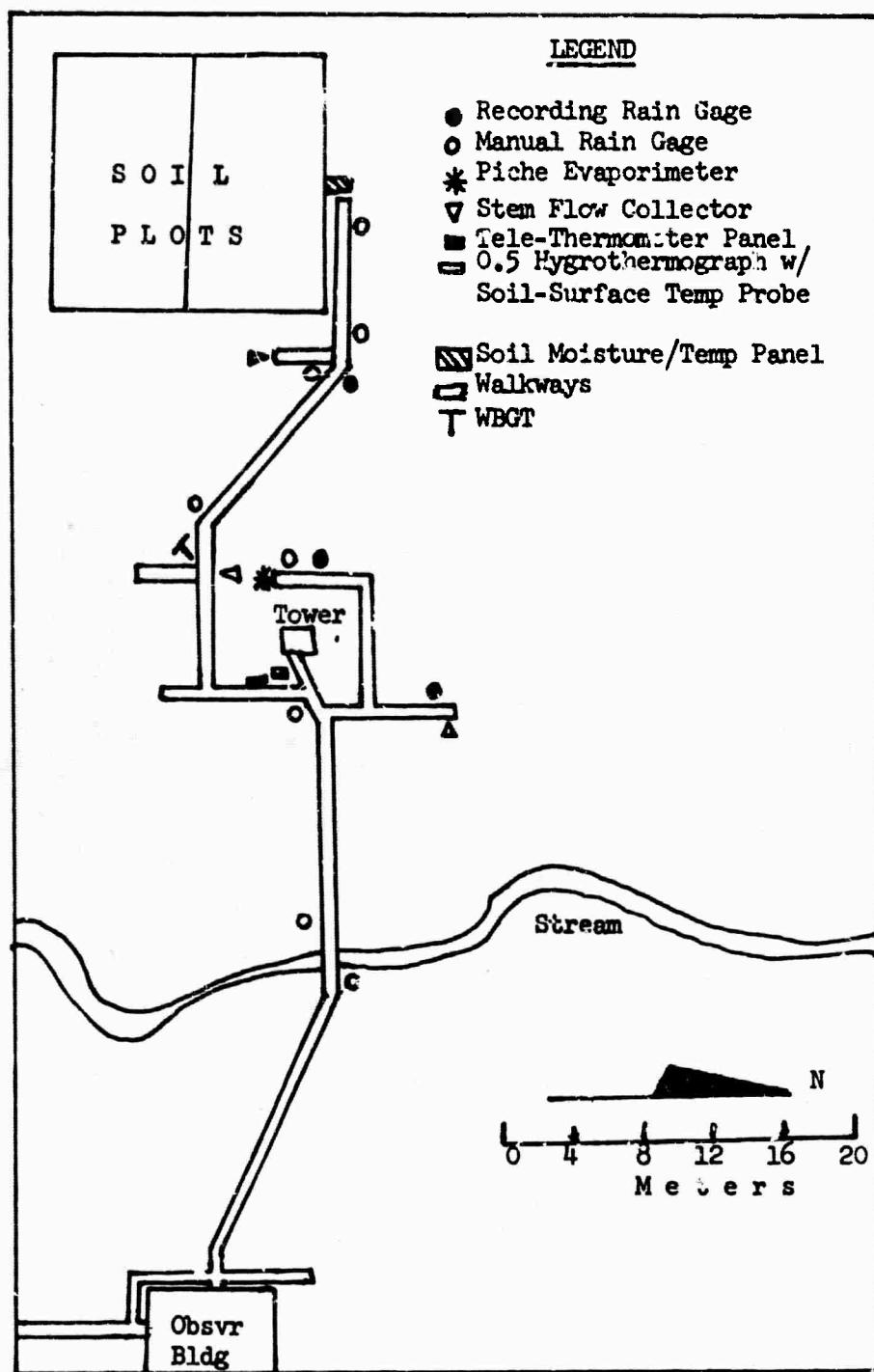


FIGURE 3. ALBROOK FOREST SITE, GENERALIZED PLOT

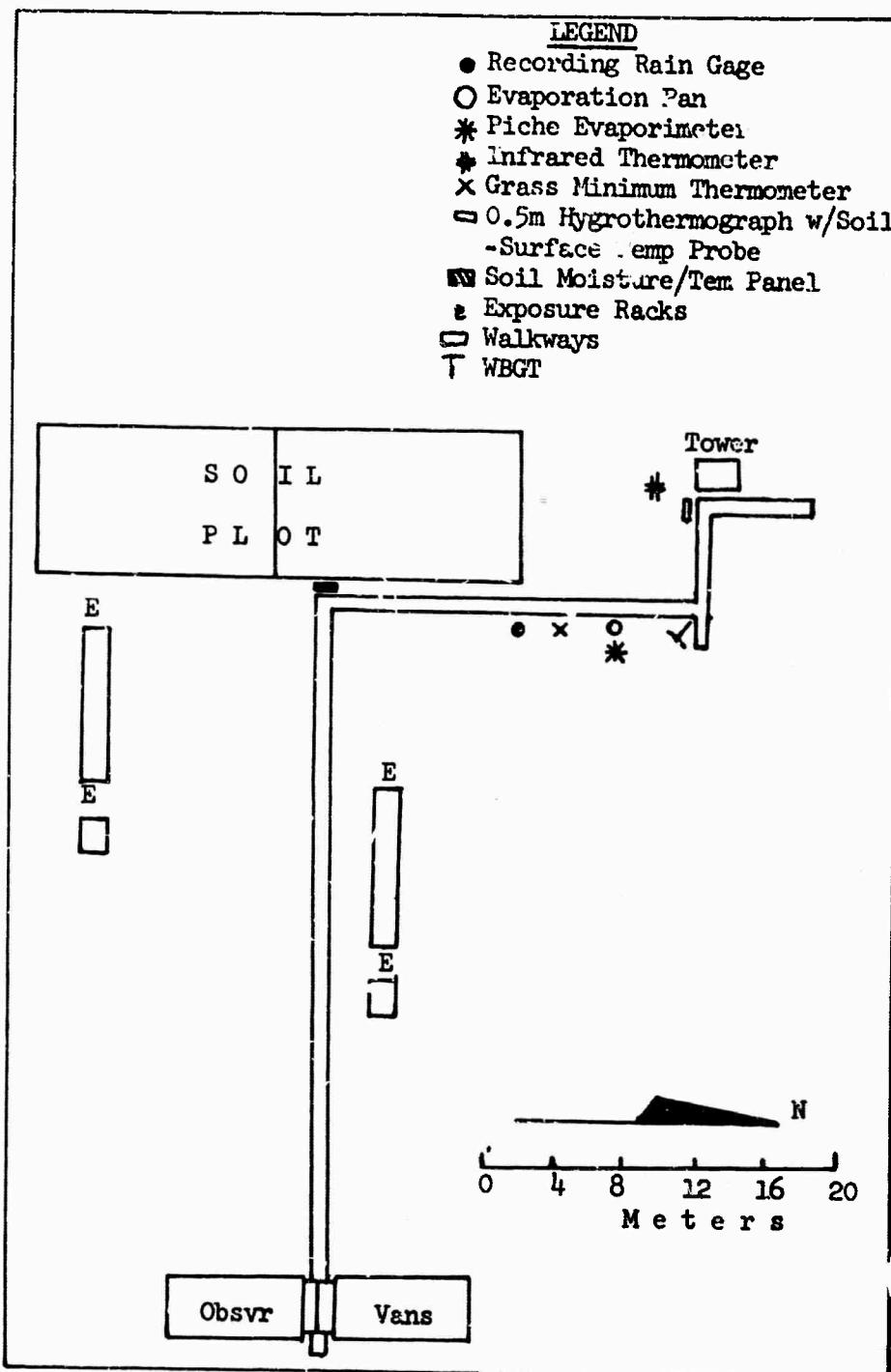


FIGURE 4. CHIVA CHIVA OPEN, GENERALIZED PLOT

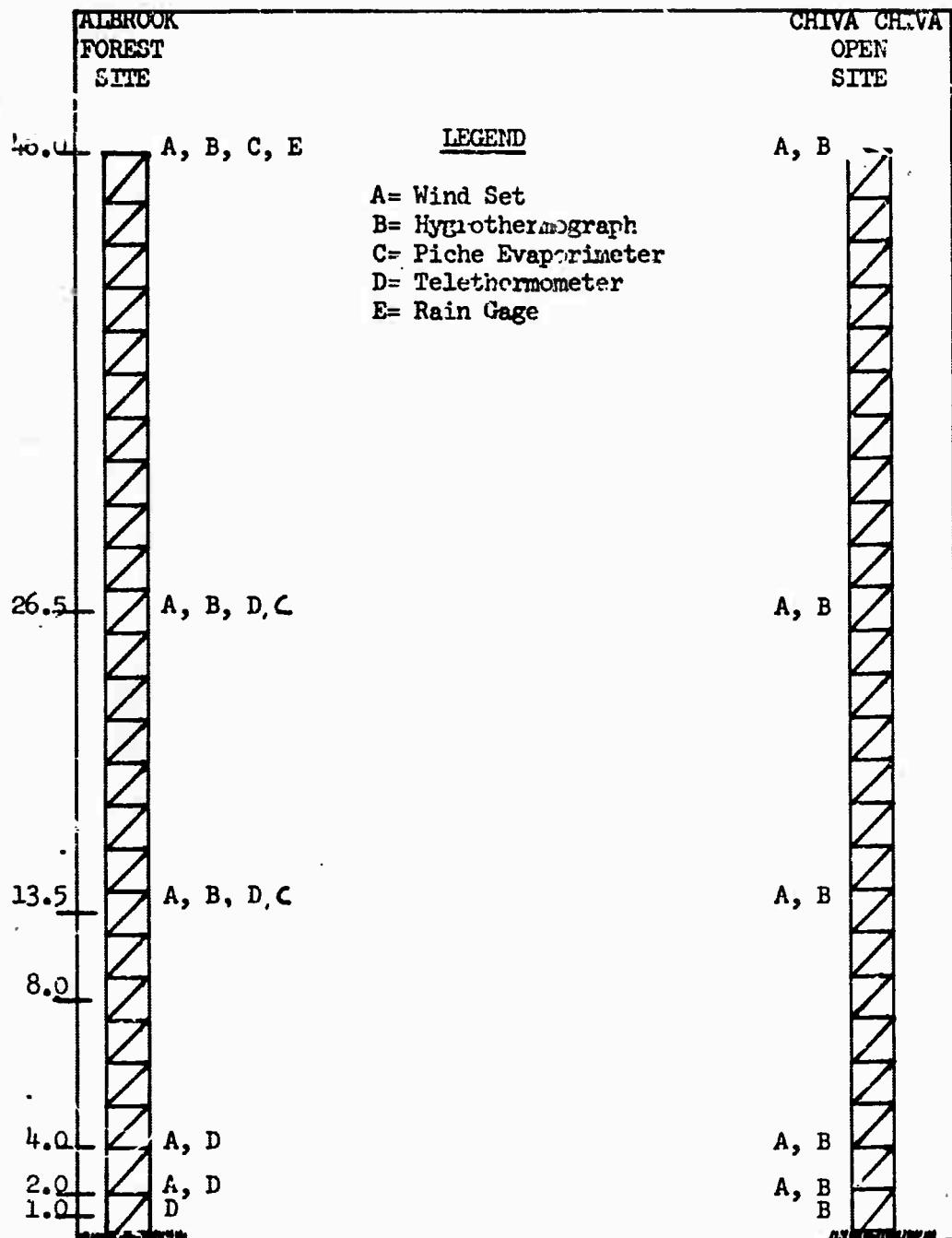


FIGURE 5. INSTRUMENT LOCATION ON TOWER

**SUMMARY OF METEOROLOGICAL OBSERVATIONS**  
**HOURLY DATA**  
**MAY 1967**

| Exposure   | Site   | Monthly Means of Air Temperature by Hour<br>(° F) |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | Monthly Summary |      |      |      |  |
|--|--------|---|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----------------|------|------|------|--|
|  |        | 01  | 02   | 03   | 04   | 05   | 06   | 07   | 08   | 09   | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   | 18   | 19   | 20   | 21   | 22   | 23   | 24   | Days of Month   | Min. | Mean | Max. |  |
| 46.0 m   | 46.0 m | 76.4  | 76.3 | 76.0 | 75.9 | 76.0 | 76.9 | 79.0 | 82.6 | 85.0 | 85.9 | 85.5 | 84.7 | 83.2 | 82.2 | 81.5 | 81.6 | 80.2 | 78.6 | 77.8 | 77.5 | 77.4 | 77.2 | 76.8 | 46.9 | 73.0            | 79.6 | 90.1 |      |  |
| 28.5 m   | 28.5 m | 75.8  | 75.6 | 75.5 | 75.2 | 75.1 | 75.0 | 76.5 | 78.8 | 82.1 | 84.1 | 85.1 | 85.0 | 84.7 | 83.7 | 82.6 | 81.6 | 80.9 | 79.3 | 77.6 | 77.0 | 76.7 | 76.3 | 76.0 | 74.0 | 72.3            | 79.0 | 85.7 |      |  |
| 26.5 m   | 26.5 m | 75.3  | 75.1 | 75.1 | 74.8 | 74.5 | 74.4 | 74.3 | 75.2 | 77.5 | 79.7 | 81.5 | 82.9 | 83.3 | 82.2 | 81.5 | 80.9 | 80.3 | 79.0 | 77.7 | 76.9 | 76.6 | 76.3 | 75.9 | 75.6 | 74.1            | 70.9 | 78.1 | 87.9 |  |
| 8.0 m  | 8.0 m  | 74.8  | 74.6 | 74.3 | 74.3 | 74.0 | 74.0 | 73.9 | 75.1 | 77.5 | 80.0 | 81.7 | 82.7 | 82.6 | 81.9 | 81.5 | 80.5 | 79.9 | 78.6 | 77.1 | 76.5 | 75.8 | 75.6 | 74.4 | 70.5 | 77.1            | 89.5 |      |      |  |
| 4.0 m  | 4.0 m  | 74.7  | 74.6 | 74.3 | 74.3 | 74.0 | 74.0 | 73.9 | 75.0 | 77.2 | 79.6 | 81.3 | 82.3 | 82.9 | 82.5 | 81.7 | 81.4 | 80.3 | 79.7 | 78.3 | 76.9 | 76.4 | 75.9 | 75.5 | 75.1 | 74.4            | 70.3 | 77.6 | 89.0 |  |
| 1.0 m  | 1.0 m  | 75.0  | 74.9 | 74.7 | 74.5 | 74.4 | 74.0 | 74.9 | 77.3 | 79.2 | 81.2 | 83.1 | 82.5 | 81.3 | 81.2 | 80.4 | 79.8 | 78.4 | 77.0 | 76.7 | 76.4 | 75.9 | 75.7 | 75.3 | 73.8 | 70.6            | 77.8 | 88.9 |      |  |
| 0.5 m  | 0.5 m  | 74.9  | 74.7 | 74.5 | 74.4 | 74.3 | 75.0 | 76.9 | 78.8 | 80.6 | 81.8 | 82.4 | 82.0 | 81.3 | 80.6 | 79.7 | 78.9 | 77.6 | 76.9 | 76.5 | 76.2 | 75.7 | 75.4 | 73.0 | 70.9 | 77.7            | 87.0 |      |      |  |
| Albrook (Forest site)  |        |   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                 |      |      |      |  |
| This level was not instrumented for air temperature at this time |        |   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                 |      |      |      |  |

| Exposure   | Site   | Monthly Means of Air Temperature by Hour<br>(° F) |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | Monthly Summary |      |      |      |      |
|--|--------|---|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----------------|------|------|------|------|
|  |        | 01  | 02   | 03   | 04   | 05   | 06   | 07   | 08   | 09   | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   | 18   | 19   | 20   | 21   | 22   | 23   | 24   | Days of Month   | Min. | Mean | Max. |      |
| 45.0 m   | 45.0 m | 76.5  | 76.3 | 76.0 | 75.9 | 75.8 | 75.5 | 77.5 | 80.0 | 82.1 | 83.7 | 84.4 | 84.0 | 83.5 | 82.4 | 81.3 | 81.0 | 80.3 | 79.6 | 78.3 | 77.9 | 77.5 | 77.3 | 77.1 | 76.5 | 74.4            | 72.2 | 79.2 | 90.0 |      |
| 28.5 m   | 28.5 m | 75.9  | 75.8 | 75.6 | 75.5 | 77.4 | 80.0 | 81.8 | 83.1 | 84.1 | 84.0 | 83.6 | 82.6 | 81.9 | 81.4 | 80.6 | 79.8 | 78.5 | 77.9 | 77.5 | 77.3 | 77.0 | 76.8 | 74.4 | 72.3 | 79.2            | 89.5 |      |      |      |
| 26.5 m   | 26.5 m | 75.7  | 75.6 | 75.5 | 75.4 | 75.3 | 77.4 | 80.2 | 82.1 | 83.9 | 84.7 | 84.4 | 84.1 | 83.9 | 83.0 | 82.0 | 81.6 | 80.7 | 79.8 | 78.4 | 77.9 | 77.4 | 77.2 | 76.9 | 76.6 | 74.4            | 71.5 | 79.3 | 90.3 |      |
| 13.5 m   | 13.5 m | 76.0  | 75.7 | 75.6 | 75.5 | 75.4 | 75.3 | 77.4 | 80.2 | 82.1 | 83.9 | 84.7 | 84.4 | 84.1 | 83.9 | 83.0 | 82.0 | 81.6 | 80.7 | 79.8 | 78.4 | 77.9 | 77.4 | 77.2 | 76.9 | 76.6            | 74.4 | 71.5 | 79.3 | 90.3 |
| 8.0 m  | 8.0 m  | 75.8  | 75.5 | 75.1 | 75.0 | 74.8 | 74.7 | 77.7 | 80.5 | 82.6 | 84.9 | 85.7 | 86.1 | 85.0 | 84.3 | 83.0 | 82.6 | 81.6 | 80.0 | 78.3 | 77.3 | 77.5 | 77.0 | 76.6 | 76.3 | 76.0            | 74.1 | 72.3 | 79.4 | 90.9 |
| 4.0 m  | 4.0 m  | 75.4  | 75.1 | 74.8 | 74.6 | 74.5 | 74.5 | 77.7 | 80.6 | 82.7 | 85.0 | 85.8 | 86.0 | 85.1 | 84.2 | 83.0 | 82.5 | 81.5 | 80.7 | 79.8 | 78.1 | 77.3 | 77.0 | 76.8 | 76.3 | 76.0            | 74.1 | 72.3 | 79.4 | 90.9 |
| 2.0 m  | 2.0 m  | 75.5  | 75.3 | 75.0 | 74.8 | 74.6 | 74.5 | 74.4 | 77.8 | 81.0 | 83.2 | 85.5 | 86.1 | 86.0 | 85.3 | 84.3 | 83.4 | 82.2 | 80.4 | 78.6 | 77.7 | 77.1 | 76.6 | 76.3 | 76.0 | 74.4            | 72.0 | 79.6 | 90.7 |      |
| 1.0 m  | 1.0 m  | 75.5  | 75.2 | 74.9 | 74.8 | 74.6 | 74.6 | 74.6 | 76.7 | 80.2 | 83.0 | 85.3 | 86.1 | 86.6 | 85.5 | 84.6 | 83.8 | 83.3 | 82.2 | 80.5 | 78.4 | 77.5 | 76.9 | 76.5 | 76.1 | 75.9            | 73.7 | 70.3 | 79.5 | 93.5 |
| 0.5 m  | 0.5 m  | 75.5  | 75.2 | 74.9 | 74.8 | 74.6 | 74.6 | 74.6 | 76.7 | 80.2 | 83.0 | 85.3 | 86.1 | 86.6 | 85.5 | 84.6 | 83.8 | 83.3 | 82.2 | 80.5 | 78.4 | 77.5 | 76.9 | 76.5 | 76.1 | 75.9            | 73.7 | 70.3 | 79.5 | 93.5 |
| Chiva Chiva (Open site)  |        |   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                 |      |      |      |      |
| This level was not instrumented for air temperature at this time |        |   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                 |      |      |      |      |

**SUMMARY OF METEOROLOGICAL OBSERVATIONS**  
**HOURLY DATA**

MAY 1967

| Exposure              | Site   | Level | Monthly Ranges of Air Temperature by Hour |     |     |     |     |     |     |      |      |      |      |      |      |      |      |      |      |     |     |     |     |     |     |     | Monthly Summary* |
|-----------------------|--------|-------|---|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|------------------|
|                       |        |       | 01  | 02  | 03  | 04  | 05  | 06  | 07  | 08   | 09   | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   | 18  | 19  | 20  | 21  | 22  | 23  | 24  |                  |
| Albrook (Forest Site) | 46.0 m | 4.1   | DTF                                       | DTF | DTF | DTF | DTF | DTF | DTF | DTF  | DTF  | DTF  | DTF  | DTF  | DTF  | DTF  | DTF  | DTF  | DTF  | DTF | DTF | DTF | DTF | DTF | DTF | DTF |                  |
|                       | 28.5 m | 4.1   | 3.7                                       | 3.8 | 4.8 | 4.2 | 4.9 | 5.4 | 7.2 | 11.7 | 11.1 | 11.4 | 15.0 | 13.7 | 14.0 | 14.9 | 14.5 | 13.8 | 10.1 | 5.6 | 5.5 | 4.0 | 4.1 | 5.2 | 4.7 |     |                  |
|                       | 26.5 m | 5.7   | 5.5                                       | 5.2 | 6.1 | 6.8 | 7.3 | 8.0 | 8.5 | 9.8  | 11.5 | 12.5 | 11.1 | 12.0 | 12.9 | 13.0 | 12.7 | 9.8  | 6.9  | 5.0 | 4.2 | 5.1 | 5.9 | 5.7 |     |     |                  |
|                       | 13.5 m | 5.7   | 5.5                                       | 5.2 | 6.1 | 6.8 | 7.3 | 8.0 | 8.5 | 9.8  | 11.5 | 12.5 | 11.1 | 12.0 | 12.9 | 13.0 | 12.7 | 9.8  | 6.9  | 5.0 | 4.2 | 5.1 | 5.9 | 5.7 |     |     |                  |
|                       | 8.0 m  | 5.7   | 7.2                                       | 6.6 | 6.5 | 6.5 | 5.5 | 5.8 | 4.8 | 4.4  | 6.1  | 9.5  | 11.9 | 13.7 | 11.5 | 11.2 | 15.2 | 11.8 | 11.8 | 9.1 | 6.3 | 5.4 | 6.2 | 5.5 | 5.7 |     |                  |
|                       | 4.0 m  | 4.8   | 6.4                                       | 6.4 | 6.5 | 6.7 | 5.9 | 5.0 | 5.7 | 3.8  | 9.0  | 10.7 | 13.1 | 11.3 | 11.2 | 14.7 | 11.5 | 11.5 | 8.2  | 6.0 | 5.4 | 6.0 | 5.5 | 5.7 | 4.8 |     |                  |
|                       | 2.0 m  | 5.0   | 5.7                                       | 6.1 | 6.3 | 6.6 | 5.8 | 4.7 | 6.6 | 7.5  | 10.6 | 9.9  | 12.8 | 12.8 | 10.8 | 14.4 | 12.5 | 12.5 | 11.2 | 8.3 | 6.0 | 4.8 | 5.5 | 5.2 | 5.0 | 4.7 |                  |
|                       | 0.5 m  | 5.0   | 5.8                                       | 5.5 | 6.3 | 6.6 | 6.1 | 5.1 | 5.9 | 7.2  | 8.7  | 9.9  | 9.7  | 10.1 | 10.7 | 11.8 | 11.2 | 11.2 | DTF  | 8.5 | 6.4 | 4.7 | 4.6 | 4.8 | 5.3 |     |                  |

Note: DTF indicates data of doubtful validity.

\* No monthly summary  
 was computed for  
 the ranges.

| Exposure                | Site   | Level | Monthly Ranges of Air Temperature by Hour |     |     |     |     |     |     |      |      |      |      |      |      |      |      |      |     |     |     |     |     |     |     |    | Monthly Summary* |
|-------------------------|--------|-------|---|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|----|------------------|
|                         |        |       | 01  | 02  | 03  | 04  | 05  | 06  | 07  | 08   | 09   | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24 |                  |
| Chiva Chiva (Open Site) | 46.0 m | 4.7   | 4.4                                       | 5.1 | 5.8 | 6.1 | 6.9 | 7.1 | 7.5 | 9.1  | 9.3  | 10.4 | 16.2 | 14.4 | 12.4 | 13.0 | 11.3 | 10.2 | 7.9 | 5.8 | 4.5 | 3.5 | 3.3 | 3.1 | 2.9 |    |                  |
|                         | 28.5 m | 5.2   | 5.4                                       | 5.9 | 6.3 | 6.1 | 7.4 | 7.5 | 9.3 | 9.5  | 10.4 | 14.6 | 13.7 | 12.4 | 11.9 | 10.8 | 10.5 | 7.4  | 5.0 | 4.3 | 3.4 | 3.2 | 3.7 | 4.4 |     |    |                  |
|                         | 26.5 m | 5.5   | 5.5                                       | 5.9 | 6.3 | 6.8 | 7.0 | 7.8 | 7.1 | 9.2  | 10.3 | 10.3 | 14.6 | 15.1 | 13.5 | 12.0 | 11.0 | 10.7 | 8.0 | 5.8 | 4.5 | 3.6 | 3.3 | 3.7 | 4.1 |    |                  |
|                         | 13.5 m | 5.5   | 7.5                                       | 6.6 | 7.0 | 7.7 | 8.0 | 7.0 | 6.5 | 9.1  | 10.0 | 11.2 | 15.8 | 14.1 | 14.4 | 13.3 | 12.8 | 13.1 | 9.0 | 7.2 | 5.2 | 4.5 | 4.5 | 5.2 | 5.6 |    |                  |
|                         | 8.0 m  | 4.0 m | 7.5                                       | 6.6 | 7.0 | 7.7 | 8.0 | 7.0 | 6.5 | 9.1  | 10.0 | 11.2 | 15.8 | 14.1 | 14.4 | 13.3 | 12.8 | 13.1 | 9.0 | 7.2 | 5.2 | 4.5 | 4.5 | 5.2 | 5.6 |    |                  |
|                         | 2.0 m  | 7.9   | 6.9                                       | 7.1 | 7.4 | 7.8 | 7.3 | 6.4 | 9.1 | 9.1  | 11.1 | 15.2 | 14.3 | 14.3 | 13.7 | 12.9 | 12.8 | 8.8  | 6.3 | 5.1 | 3.6 | 4.2 | 4.1 | 5.2 |     |    |                  |
|                         | 1.0 m  | 8.3   | 8.5                                       | 7.4 | 7.6 | 8.0 | 8.1 | 7.9 | 8.0 | 11.9 | 13.6 | 13.3 | 17.2 | 16.0 | 16.5 | 16.8 | 15.9 | 13.3 | 9.2 | 6.5 | 5.4 | 4.7 | 4.3 | 4.5 | 4.9 |    |                  |
|                         | 0.5 m  | 7.7   | 7.3                                       | 7.0 | 7.6 | 7.7 | 7.6 | 8.4 | 7.1 | 11.1 | 14.4 | 15.5 | 17.2 | 15.2 | 14.8 | 15.1 | 13.5 | 13.7 | 9.4 | 6.7 | 4.0 | 3.9 | 4.1 | 5.7 | 5.2 |    |                  |

**SUMMARY OF METEOROLOGICAL OBSERVATIONS**

**HOURLY DATA**

MAY 1967

| Exposure   | Stn. | Monthly Means of Relative Humidity by Hour<br>(%) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     | Monthly Summary |      |      |  |
|--|------|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|-----------------|------|------|--|
|  |      | 01  | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24  | No. of<br>Obs.  | Min. | Max. |  |
| 46.0 m   | 91   | 92  | 92 | 92 | 92 | 92 | 92 | 89 | 84 | 76 | 69 | 68 | 69 | 73 | 75 | 79 | 81 | 81 | 83 | 86 | 87 | 89 | 90 | 90 | 90  | 614             | 53   | 85   |  |
| 28.5 m   | 93   | 93  | 94 | 93 | 93 | 94 | 91 | 85 | 77 | 72 | 71 | 74 | 77 | 79 | 81 | 81 | 84 | 88 | 89 | 91 | 92 | 92 | 92 | 92 | 742 | 54              | 85   |      |  |
| 26.5 m   | 93   | 93  | 94 | 93 | 93 | 94 | 91 | 85 | 77 | 72 | 71 | 74 | 77 | 79 | 81 | 81 | 83 | 83 | 85 | 87 | 89 | 90 | 92 | 94 | 94  | 741             | 54   | 88   |  |
| 13.5 m   | 95   | 95  | 95 | 95 | 95 | 95 | 96 | 94 | 90 | 84 | 78 | 76 | 76 | 77 | 80 | 81 | 83 | 83 | 85 | 87 | 89 | 90 | 92 | 94 | 94  | 741             | 54   | 88   |  |
| 8.0 m  | 96   | 97  | 97 | 97 | 97 | 97 | 98 | 95 | 93 | 85 | 81 | 80 | 79 | 81 | 85 | 84 | 86 | 86 | 88 | 89 | 91 | 93 | 94 | 95 | 95  | 744             | 58   | 90   |  |
| 4.0 m  | 97   | 97  | 97 | 97 | 97 | 97 | 98 | 96 | 94 | 87 | 84 | 82 | 80 | 81 | 85 | 85 | 87 | 88 | 91 | 92 | 93 | 94 | 95 | 95 | 95  | 744             | 52   | 91   |  |
| 2.0 m  | 97   | 97  | 97 | 97 | 97 | 97 | 98 | 96 | 94 | 87 | 84 | 82 | 80 | 81 | 85 | 85 | 87 | 88 | 89 | 91 | 92 | 93 | 94 | 95 | 95  | 744             | 52   | 91   |  |
| 1.0 m  | 97   | 97  | 97 | 97 | 97 | 97 | 98 | 97 | 95 | 91 | 87 | 83 | 81 | 82 | 85 | 86 | 87 | 88 | 89 | 91 | 92 | 93 | 94 | 95 | 95  | 733             | 60   | 92   |  |
| 0.5 m  | 97   | 97  | 97 | 97 | 97 | 97 | 98 | 97 | 96 | 92 | 90 | 87 | 84 | 66 | 88 | 88 | 89 | 92 | 91 | 92 | 94 | 94 | 95 | 96 | 96  | 728             | 62   | 93   |  |
| Albrook (Forest site)  |      |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |                 |      |      |  |
| This level was not instrumented for relative humidity at this time |      |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |                 |      |      |  |

| Exposure   | Stn. | Monthly Means of Relative Humidity by Hour<br>(%) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     | Monthly Summary |      |      |  |
|--|------|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|-----------------|------|------|--|
|  |      | 01  | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24  | No. of<br>Obs.  | Min. | Max. |  |
| 46.0 m   | 90   | 91  | 91 | 92 | 92 | 92 | 92 | 67 | 81 | 76 | 71 | 70 | 69 | 72 | 74 | 77 | 78 | 79 | 81 | 84 | 86 | 87 | 88 | 88 | 89  | 742             | 56   | 83   |  |
| 28.5 m   | 91   | 92  | 92 | 92 | 92 | 92 | 92 | 87 | 81 | 76 | 71 | 70 | 72 | 75 | 77 | 77 | 79 | 82 | 85 | 87 | 88 | 88 | 89 | 90 | 742 | 53              | 83   |      |  |
| 26.5 m   | 91   | 93  | 93 | 93 | 93 | 93 | 93 | 88 | 81 | 76 | 70 | 69 | 71 | 75 | 76 | 77 | 79 | 82 | 85 | 87 | 89 | 90 | 90 | 91 | 742 | 52              | 83   |      |  |
| 13.5 m   | 91   | 92  | 93 | 93 | 93 | 93 | 93 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 741 | 50              | 83   |      |  |
| 8.0 m  | 92   | 93  | 93 | 93 | 93 | 93 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 741 | 51              | 84   |      |  |
| 4.0 m  | 93   | 94  | 94 | 94 | 94 | 94 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 732 | 49              | 85   |      |  |
| 2.0 m  | 93   | 94  | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 732 | 49              | 85   |      |  |
| 1.0 m  | 94   | 94  | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 732 | 49              | 85   |      |  |
| 0.5 m  | 94   | 94  | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 732 | 49              | 85   |      |  |
| Chiva Chiva (Open site)  |      |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |                 |      |      |  |
| This level was not instrumented for relative humidity at this time |      |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |                 |      |      |  |

**SUMMARY OF METEOROLOGICAL OBSERVATIONS**  
**HOURLY DATA**

MAY 1967

| Exposure              | Site   | Level | Monthly Ranges of Relative Humidity by Hour<br>(%) |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | Monthly Summary* |
|-----------------------|--------|-------|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------------------|
|                       |        |       | 01   | 02  | 03  | 04  | 05  | 06  | 07  | 08  | 09  | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  |                  |
| Altoona (Forest Site) | 46.0 m | DTF   | DTF  | DTF | DTF | DTF | DTF | DTF | DTF | DTF | DTF | DTF | DTF | DTF | DTF | DTF | DTF | DTF | DTF | DTF | DTF | DTF | DTF | DTF | DTF | DTF |                  |
|                       | 28.5 m | 10    | 9  | 10  | 12  | 10  | 18  | 22  | 26  | 33  | 35  | 36  | 42  | 41  | 44  | 43  | 38  | 34  | 21  | 16  | 15  | 12  | 10  | 16  |     |     |                  |
|                       | 26.5 m | 12    | 11   | 11  | 9   | 7   | 6   | 13  | 20  | 29  | 31  | 33  | 38  | 41  | 43  | 40  | 45  | 45  | 31  | 25  | 19  | 18  | 13  | 12  | 11  |     |                  |
|                       | 13.5 m | 8.0 m |  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                  |
|                       | 4.0 m  | 14    | 16   | 13  | 10  | 10  | 6   | 13  | 17  | 27  | 30  | 38  | 41  | 39  | 40  | 41  | 42  | 36  | 28  | 25  | 21  | 16  | 14  | 15  | 15  |     |                  |
|                       | 2.0 m  | 14    | 13   | 13  | 10  | 10  | 8   | 13  | 14  | 24  | 27  | 48  | 41  | 38  | 40  | 40  | 34  | 34  | 24  | 26  | 17  | 16  | 13  | 14  | 12  |     |                  |
|                       | 1.0 m  | 10    | 11   | 9   | 8   | 8   | 6   | 10  | 12  | 23  | 27  | 39  | 37  | 38  | 38  | 39  | 39  | 38  | 25  | 24  | 18  | 14  | 13  | 11  | 13  |     |                  |
|                       | 0.5 m  | 9     | ;  | 12  | 9   | 6   | 6   | 9   | 14  | 19  | 24  | 28  | 29  | 31  | 30  | 32  | 28  | 26  | 37  | 19  | 16  | 13  | 12  | 10  | 12  |     |                  |

Note: DTF indicates data of doubtful validity.

\* No monthly summary was computed for the ranges.

| Exposure              | Site   | Level | Monthly Ranges of Relative Humidity by Hour<br>(%) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | Monthly Summary* |
|-----------------------|--------|-------|--|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------------------|
|                       |        |       | 01   | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |                  |
| Altoona (Forest Site) | 46.0 m | 13    | 15   | 14 | 14 | 12 | 15 | 17 | 20 | 20 | 24 | 29 | 36 | 38 | 38 | 41 | 35 | 37 | 30 | 26 | 18 | 15 | 15 | 15 | 13 |    |                  |
|                       | 28.5 m | 16    | 15   | 15 | 14 | 16 | 18 | 19 | 19 | 24 | 32 | 38 | 42 | 42 | 44 | 38 | 38 | 30 | 24 | 18 | 14 | 15 | 15 | 13 |    |    |                  |
|                       | 26.5 m | 15    | 16   | 15 | 15 | 15 | 16 | 20 | 21 | 23 | 26 | 35 | 41 | 44 | 43 | 47 | 40 | 41 | 33 | 27 | 19 | 14 | 15 | 15 | 13 |    |                  |
|                       | 13.5 m | 8.0 m |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                  |
|                       | 4.0 m  | 18    | 20   | 16 | 14 | 14 | 15 | 19 | 21 | 23 | 28 | 35 | 42 | 49 | 46 | 50 | 42 | 42 | 33 | 27 | 21 | 17 | 18 | 17 | 16 |    |                  |
|                       | 2.0 m  | 18    | 16   | 15 | 14 | 13 | 13 | 19 | 21 | 23 | 28 | 34 | 41 | 44 | 43 | 47 | 40 | 38 | 30 | 24 | 17 | 16 | 17 | 13 | 13 |    |                  |
|                       | 1.0 m  | 14    | 13   | 13 | 12 | 13 | 12 | 20 | 24 | 27 | 36 | 42 | 44 | 47 | 49 | 42 | 37 | 30 | 22 | 12 | 13 | 12 | 11 | 12 |    |    |                  |
|                       | 0.5 m  | 18    | 16   | 16 | 16 | 16 | 2; | 25 | 30 | 38 | 44 | 42 | 46 | 46 | 40 | 33 | 30 | 24 | 17 | 16 | 18 | 15 |    |    |    |    |                  |

**SUMMARY OF METEOROLOGICAL OBSERVATIONS**  
**HOURLY DATA**

MAY 1967

| Exposure               |              | Monthly Means <sup>2</sup> of other elements by hour |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | Monthly Summary |      |      |  |
|------------------------|--------------|--|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----------------|------|------|--|
| Site                   | Code         | 01   | 02   | 03   | 04   | 05   | 06   | 07   | 08   | 09   | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   | 18   | 19   | 20   | 21   | 22   | 23   | 24   | 25              | Min. | Max. |  |
| WB                     | 74.0 (4.0 m) | 73.9   | 73.7 | 73.5 | 73.3 | 73.1 | 73.0 | 72.9 | 72.8 | 72.7 | 72.6 | 72.5 | 72.4 | 72.3 | 72.2 | 72.1 | 72.0 | 71.9 | 71.8 | 71.7 | 71.6 | 71.5 | 71.4 | 71.3 | 71.2 | 71.1            | 71.0 |      |  |
| WB                     | 73.9 (4.0 m) | 73.8   | 73.7 | 73.5 | 73.3 | 73.1 | 73.0 | 72.9 | 72.8 | 72.7 | 72.6 | 72.5 | 72.4 | 72.3 | 72.2 | 72.1 | 72.0 | 71.9 | 71.8 | 71.7 | 71.6 | 71.5 | 71.4 | 71.3 | 71.2 | 71.1            | 71.0 |      |  |
| WB                     | 74.4 (0.5 m) | 74.2   | 74.1 | 73.9 | 73.7 | 73.5 | 73.3 | 73.1 | 73.0 | 72.9 | 72.8 | 72.7 | 72.6 | 72.5 | 72.4 | 72.3 | 72.2 | 72.1 | 72.0 | 71.9 | 71.8 | 71.7 | 71.6 | 71.5 | 71.4 | 71.3            | 71.2 | 71.1 |  |
| UP                     | 74.7 (0.5 m) | 73.1   | 71.9 | 71.6 | 71.4 | 71.2 | 71.0 | 70.8 | 70.6 | 70.4 | 70.3 | 70.1 | 70.0 | 70.1 | 70.2 | 70.3 | 70.4 | 70.5 | 70.6 | 70.7 | 70.8 | 70.9 | 70.8 | 70.7 | 70.6 | 70.5            | 70.4 | 70.3 |  |
| P1                     | 0.01         | 0.08   | 0.07 | 0.06 | 0.05 | 0.04 | 0.03 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01            | 0.01 | 0.01 |  |
| P2                     | 0.03         | 0.04   | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04            | 0.04 | 0.04 |  |
| P3                     | 0.05         | 0.04   | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04            | 0.04 | 0.04 |  |
| P4                     | 0.05         | 0.04   | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04            | 0.04 | 0.04 |  |
| Albedo (Forecast site) |              |  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                 |      |      |  |
| WB                     | 74.0 (1.0 m) | 73.6   | 73.5 | 73.4 | 73.3 | 73.2 | 73.1 | 73.0 | 72.9 | 72.8 | 72.7 | 72.6 | 72.5 | 72.4 | 72.3 | 72.2 | 72.1 | 72.0 | 71.9 | 71.8 | 71.7 | 71.6 | 71.5 | 71.4 | 71.3 | 71.2            | 71.1 | 71.0 |  |
| WB                     | 73.8 (1.0 m) | 73.5   | 73.5 | 73.4 | 73.3 | 73.2 | 73.1 | 73.0 | 72.9 | 72.8 | 72.7 | 72.6 | 72.5 | 72.4 | 72.3 | 72.2 | 72.1 | 72.0 | 71.9 | 71.8 | 71.7 | 71.6 | 71.5 | 71.4 | 71.3 | 71.2            | 71.1 | 71.0 |  |
| WB                     | 73.7 (0.5 m) | 73.6   | 73.5 | 73.4 | 73.3 | 73.2 | 73.1 | 73.0 | 72.9 | 72.8 | 72.7 | 72.6 | 72.5 | 72.4 | 72.3 | 72.2 | 72.1 | 72.0 | 71.9 | 71.8 | 71.7 | 71.6 | 71.5 | 71.4 | 71.3 | 71.2            | 71.1 | 71.0 |  |
| UP                     | 74.1 (0.5 m) | 73.3   | 73.2 | 73.1 | 73.0 | 72.9 | 72.8 | 72.7 | 72.6 | 72.5 | 72.4 | 72.3 | 72.2 | 72.1 | 72.0 | 71.9 | 71.8 | 71.7 | 71.6 | 71.5 | 71.4 | 71.3 | 71.2 | 71.1 | 71.0 | 70.9            | 70.8 | 70.7 |  |
| PS                     | 0.05         | 0.10   | 0.12 | 0.07 | 0.06 | 0.05 | 0.04 | 0.03 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01            | 0.01 | 0.01 |  |
| Chl-a (Open site)      |              |  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                 |      |      |  |
| WB                     | 74.1 (1.0 m) | 73.6   | 73.5 | 73.4 | 73.3 | 73.2 | 73.1 | 73.0 | 72.9 | 72.8 | 72.7 | 72.6 | 72.5 | 72.4 | 72.3 | 72.2 | 72.1 | 72.0 | 71.9 | 71.8 | 71.7 | 71.6 | 71.5 | 71.4 | 71.3 | 71.2            | 71.1 | 71.0 |  |
| WB                     | 73.8 (1.0 m) | 73.5   | 73.5 | 73.4 | 73.3 | 73.2 | 73.1 | 73.0 | 72.9 | 72.8 | 72.7 | 72.6 | 72.5 | 72.4 | 72.3 | 72.2 | 72.1 | 72.0 | 71.9 | 71.8 | 71.7 | 71.6 | 71.5 | 71.4 | 71.3 | 71.2            | 71.1 | 71.0 |  |
| WB                     | 73.7 (0.5 m) | 73.6   | 73.5 | 73.4 | 73.3 | 73.2 | 73.1 | 73.0 | 72.9 | 72.8 | 72.7 | 72.6 | 72.5 | 72.4 | 72.3 | 72.2 | 72.1 | 72.0 | 71.9 | 71.8 | 71.7 | 71.6 | 71.5 | 71.4 | 71.3 | 71.2            | 71.1 | 71.0 |  |
| UP                     | 74.2 (0.5 m) | 83.0   | 81.4 | 80.7 | 80.9 | 81.7 | 81.9 | 82.0 | 82.1 | 82.1 | 82.1 | 82.1 | 82.1 | 82.1 | 82.1 | 82.1 | 82.1 | 82.1 | 82.1 | 82.1 | 82.1 | 82.1 | 82.1 | 82.1 | 82.1 | 82.1            | 82.1 | 82.1 |  |
| PS                     | 0.05         | 0.10   | 0.12 | 0.07 | 0.06 | 0.05 | 0.04 | 0.03 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01            | 0.01 | 0.01 |  |

| Exposure          |              | Monthly Means <sup>2</sup> of other elements by hour |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | Monthly Summary |      |      |  |
|-------------------|--------------|--|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----------------|------|------|--|
| Site              | Code         | 01   | 02   | 03   | 04   | 05   | 06   | 07   | 08   | 09   | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   | 18   | 19   | 20   | 21   | 22   | 23   | 24   | 25              | Min. | Max. |  |
| WB                | 74.0 (4.0 m) | 73.9   | 73.7 | 73.5 | 73.3 | 73.1 | 73.0 | 72.9 | 72.8 | 72.7 | 72.6 | 72.5 | 72.4 | 72.3 | 72.2 | 72.1 | 72.0 | 71.9 | 71.8 | 71.7 | 71.6 | 71.5 | 71.4 | 71.3 | 71.2 | 71.1            | 71.0 |      |  |
| WB                | 73.9 (4.0 m) | 73.8   | 73.7 | 73.5 | 73.3 | 73.1 | 73.0 | 72.9 | 72.8 | 72.7 | 72.6 | 72.5 | 72.4 | 72.3 | 72.2 | 72.1 | 72.0 | 71.9 | 71.8 | 71.7 | 71.6 | 71.5 | 71.4 | 71.3 | 71.2 | 71.1            | 71.0 |      |  |
| WB                | 74.4 (0.5 m) | 74.2   | 74.1 | 73.9 | 73.7 | 73.5 | 73.3 | 73.1 | 73.0 | 72.9 | 72.8 | 72.7 | 72.6 | 72.5 | 72.4 | 72.3 | 72.2 | 72.1 | 72.0 | 71.9 | 71.8 | 71.7 | 71.6 | 71.5 | 71.4 | 71.3            | 71.2 | 71.1 |  |
| UP                | 74.7 (0.5 m) | 73.1   | 71.9 | 71.6 | 71.4 | 71.2 | 71.0 | 70.8 | 70.6 | 70.4 | 70.3 | 70.1 | 70.0 | 70.1 | 70.2 | 70.3 | 70.4 | 70.5 | 70.6 | 70.7 | 70.8 | 70.9 | 70.8 | 70.7 | 70.6 | 70.5            | 70.4 | 70.3 |  |
| P1                | 0.01         | 0.08   | 0.07 | 0.06 | 0.05 | 0.04 | 0.03 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01            | 0.01 | 0.01 |  |
| P2                | 0.03         | 0.04   | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04            | 0.04 | 0.04 |  |
| P3                | 0.05         | 0.04   | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04            | 0.04 | 0.04 |  |
| P4                | 0.05         | 0.04   | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04            | 0.04 | 0.04 |  |
| Chl-a (Open site) |              |  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                 |      |      |  |
| WB                | 74.1 (1.0 m) | 73.6   | 73.5 | 73.4 | 73.3 | 73.2 | 73.1 | 73.0 | 72.9 | 72.8 | 72.7 | 72.6 | 72.5 | 72.4 | 72.3 | 72.2 | 72.1 | 72.0 | 71.9 | 71.8 | 71.7 | 71.6 | 71.5 | 71.4 | 71.3 | 71.2            | 71.1 | 71.0 |  |
| WB                | 73.8 (1.0 m) | 73.5   | 73.5 | 73.4 | 73.3 | 73.2 | 73.1 | 73.0 | 72.9 | 72.8 | 72.7 | 72.6 | 72.5 | 72.4 | 72.3 | 72.2 | 72.1 | 72.0 | 71.9 | 71.8 | 71.7 | 71.6 | 71.5 | 71.4 | 71.3 | 71.2            | 71.1 | 71.0 |  |
| WB                | 73.7 (0.5 m) | 73.6   | 73.5 | 73.4 | 73.3 | 73.2 | 73.1 | 73.0 | 72.9 | 72.8 | 72.7 | 72.6 | 72.5 | 72.4 | 72.3 | 72.2 | 72.1 | 72.0 | 71.9 | 71.8 | 71.7 | 71.6 | 71.5 | 71.4 | 71.3 | 71.2            | 71.1 | 71.0 |  |
| UP                | 74.2 (0.5 m) | 83.0   | 81.4 | 80.7 | 80.9 | 81.7 | 81.9 | 82.0 | 82.1 | 82.1 | 82.1 | 82.1 | 82.1 | 82.1 | 82.1 | 82.1 | 82.1 | 82.1 | 82.1 | 82.1 | 82.1 | 82.1 | 82.1 | 82.1 | 82.1 | 82.1            | 82.1 | 82.1 |  |
| PS                | 0.05         | 0.10   | 0.12 | 0.07 | 0.06 | 0.05 | 0.04 | 0.03 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01            | 0.01 | 0.01 |  |

WB = Wet bulb temperature (°F)  
 IP = Barometric pressure (in. of Hg minus 29.0)  
 PS = Precipitation under drip canopy (in.)  
 P1 = Precipitation at 46.0 m. above canopy (in.)  
 P2 = Precipitation under open canopy (in.)

2 Monthly means of precipitation are computed for precipitation days.

**SUMMARY OF METEOROLOGICAL OBSERVATIONS**

**HOURLY DATA**

MAY 1957

| Exposure                  | Site Code | Monthly Ranges <sup>2</sup> of other Elements by Hour |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |   |   | Monthly Summary*                                  |
|---------------------------|-----------|---|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---|---|---|
|                           |           | 02  | 03   | 04   | 05   | 06   | 07   | 08   | 09   | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   | 18   | 19   | 20   | 21   | 22   | 23   | 24  |   |   |
| (4.0 m)                   | WB        | 4.0   | 4.9  | 4.8  | 5.2  | 5.2  | 5.0  | 4.9  | 4.2  | 4.6  | 4.7  | 6.6  | 6.3  | 5.8  | 5.5  | 7.0  | 6.7  | 8.1  | 5.6  | 4.7  | 5.0  | 3.6  | 3.6  | 3.5   | 4.2   | • No monthly summary was computed for the ranges. |
|                           | WB        | 4.1   | 4.8  | 4.7  | 5.3  | 5.5  | 5.0  | 5.1  | 4.1  | 4.8  | 5.1  | 8.8  | 6.3  | 5.4  | 5.3  | 7.3  | 5.7  | 7.8  | 6.0  | 5.3  | 4.9  | 3.7  | 3.4  | 3.5   | 4.1   |   |
|                           | WB        | 3.9   | 4.4  | 4.8  | 4.9  | 5.5  | 5.2  | 4.6  | 5.0  | 4.5  | 5.2  | 5.8  | 5.2  | 4.8  | 6.4  | 5.7  | 5.6  | 6.5  | 7.3  | 5.9  | 4.3  | 3.6  | 3.8  | 3.2   | 4.0   |   |
|                           | BP        | .160  | .155 | .150 | .152 | .160 | .155 | .135 | .140 | .140 | .145 | .130 | .150 | .135 | .160 | .155 | .170 | .175 | .160 | .150 | .145 | .160 | .168 | .163  |   |   |
| (2.0 m)                   | P1        | 0.03  | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.09 | 1.20 | 0.97 | 0.55 | 0.71 | 0.23 | 0.51 | 0.05 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02  | • No monthly summary was computed for the ranges. |   |
|                           | P2        | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.96 | 0.31 | 0.18 | 0.73 | 0.20 | 0.32 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  |   |   |
|                           | P3        | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 1.41 | 0.53 | 0.24 | 0.90 | 0.43 | 0.20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  |   |   |
|                           | P4        | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.05 | 1.48 | 0.52 | 0.27 | 0.69 | 0.52 | 0.34 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  |   |   |
| (0.5 m)                   | WB        | 4.7   | 5.2  | 4.5  | 5.0  | 4.6  | 4.9  | 3.3  | 3.7  | 4.8  | 5.3  | 5.4  | 6.0  | 4.9  | 5.3  | 6.4  | 7.0  | 5.5  | 4.7  | 4.2  | 4.1  | 3.7  | 3.4  | 3.2   | 3.6   | • No monthly summary was computed for the ranges. |
|                           | WB        | 4.6   | 5.0  | 4.1  | 4.6  | 4.5  | 4.8  | 3.3  | 3.5  | 4.3  | 4.4  | 5.2  | 6.1  | 4.3  | 4.7  | 5.5  | 5.9  | 5.5  | 4.4  | 4.3  | 4.1  | 3.5  | 3.2  | 3.3   | 3.5   |   |
|                           | WB        | 4.4   | 4.7  | 4.9  | 5.0  | 5.2  | 5.1  | 4.4  | 4.1  | 6.3  | 7.8  | 7.4  | 5.5  | 6.1  | 4.6  | 6.7  | 6.0  | 10.0 | 5.5  | 4.7  | 3.9  | 3.2  | 3.7  | 3.7   | 3.7   |   |
|                           | BP        | .160  | .160 | .155 | .160 | .155 | .160 | .145 | .160 | .150 | .150 | .140 | .125 | .125 | .150 | .135 | .175 | .185 | .165 | .165 | .140 | .150 | .155 | .155  | .155  |   |
| Chiva Chiva (Open Site)   | PS        | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.28 | 0.42 | 0.40 | 0.19 | 0.50 | 0.27 | 0.03 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | • No monthly summary was computed for the ranges. |   |
|                           | WB        | 4.7   | 5.2  | 4.5  | 5.0  | 4.6  | 4.9  | 3.3  | 3.7  | 4.8  | 5.3  | 5.4  | 6.0  | 4.9  | 5.3  | 6.4  | 7.0  | 5.5  | 4.7  | 4.2  | 4.1  | 3.7  | 3.4  | 3.2   | 3.6   |   |
|                           | WB        | 4.6   | 5.0  | 4.1  | 4.6  | 4.5  | 4.8  | 3.3  | 3.5  | 4.3  | 4.4  | 5.2  | 6.1  | 4.3  | 4.7  | 5.5  | 5.9  | 5.5  | 4.4  | 4.3  | 4.1  | 3.5  | 3.2  | 3.3   | 3.5   |   |
|                           | WB        | 4.4   | 4.7  | 4.9  | 5.0  | 5.2  | 5.1  | 4.4  | 4.1  | 6.3  | 7.8  | 7.4  | 5.5  | 6.1  | 4.6  | 6.7  | 6.0  | 10.0 | 5.5  | 4.7  | 3.9  | 3.2  | 3.7  | 3.7   | 3.7   |   |
| Chiva Chiva (Forest Site) | BP        | .160  | .160 | .155 | .160 | .155 | .160 | .145 | .160 | .150 | .150 | .140 | .125 | .125 | .150 | .135 | .175 | .185 | .165 | .165 | .140 | .150 | .155 | .155  | .155  | • No monthly summary was computed for the ranges. |
|                           | PS        | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.28 | 0.42 | 0.40 | 0.19 | 0.50 | 0.27 | 0.03 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  |   |   |
|                           | WB        | 4.7   | 5.2  | 4.5  | 5.0  | 4.6  | 4.9  | 3.3  | 3.7  | 4.8  | 5.3  | 5.4  | 6.0  | 4.9  | 5.3  | 6.4  | 7.0  | 5.5  | 4.7  | 4.2  | 4.1  | 3.7  | 3.4  | 3.2   | 3.6   |   |
|                           | WB        | 4.6   | 5.0  | 4.1  | 4.6  | 4.5  | 4.8  | 3.3  | 3.5  | 4.3  | 4.4  | 5.2  | 6.1  | 4.3  | 4.7  | 5.5  | 5.9  | 5.5  | 4.4  | 4.3  | 4.1  | 3.5  | 3.2  | 3.3   | 3.5   |   |
| (4.0 m)                   | WB        | 4.4   | 4.7  | 4.9  | 5.0  | 5.2  | 5.1  | 4.4  | 4.1  | 6.3  | 7.8  | 7.4  | 5.5  | 6.1  | 4.6  | 6.7  | 6.0  | 10.0 | 5.5  | 4.7  | 3.9  | 3.2  | 3.7  | 3.7   | 3.7   | • No monthly summary was computed for the ranges. |
|                           | WB        | 4.6   | 5.0  | 4.1  | 4.6  | 4.5  | 4.8  | 3.3  | 3.5  | 4.3  | 4.4  | 5.2  | 6.1  | 4.3  | 4.7  | 5.5  | 5.9  | 5.5  | 4.4  | 4.3  | 4.1  | 3.5  | 3.2  | 3.3   | 3.5   |   |
|                           | WB        | 4.4   | 4.7  | 4.9  | 5.0  | 5.2  | 5.1  | 4.4  | 4.1  | 6.3  | 7.8  | 7.4  | 5.5  | 6.1  | 4.6  | 6.7  | 6.0  | 10.0 | 5.5  | 4.7  | 3.9  | 3.2  | 3.7  | 3.7   | 3.7   |   |
|                           | BP        | .160  | .160 | .155 | .160 | .155 | .160 | .145 | .160 | .150 | .150 | .140 | .125 | .125 | .150 | .135 | .175 | .185 | .165 | .165 | .140 | .150 | .155 | .155  | .155  |   |
| (2.0 m)                   | PS        | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.28 | 0.42 | 0.40 | 0.19 | 0.50 | 0.27 | 0.03 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | • No monthly summary was computed for the ranges. |   |
|                           | WB        | 4.7   | 5.2  | 4.5  | 5.0  | 4.6  | 4.9  | 3.3  | 3.7  | 4.8  | 5.3  | 5.4  | 6.0  | 4.9  | 5.3  | 6.4  | 7.0  | 5.5  | 4.7  | 4.2  | 4.1  | 3.7  | 3.4  | 3.2   | 3.6   |   |
|                           | WB        | 4.6   | 5.0  | 4.1  | 4.6  | 4.5  | 4.8  | 3.3  | 3.5  | 4.3  | 4.4  | 5.2  | 6.1  | 4.3  | 4.7  | 5.5  | 5.9  | 5.5  | 4.4  | 4.3  | 4.1  | 3.5  | 3.2  | 3.3   | 3.5   |   |
|                           | WB        | 4.4   | 4.7  | 4.9  | 5.0  | 5.2  | 5.1  | 4.4  | 4.1  | 6.3  | 7.8  | 7.4  | 5.5  | 6.1  | 4.6  | 6.7  | 6.0  | 10.0 | 5.5  | 4.7  | 3.9  | 3.2  | 3.7  | 3.7   | 3.7   |   |
| (0.5 m)                   | WB        | 4.7   | 5.2  | 4.5  | 5.0  | 4.6  | 4.9  | 3.3  | 3.7  | 4.8  | 5.3  | 5.4  | 6.0  | 4.9  | 5.3  | 6.4  | 7.0  | 5.5  | 4.7  | 4.2  | 4.1  | 3.7  | 3.4  | 3.2   | 3.6   | • No monthly summary was computed for the ranges. |
|                           | WB        | 4.6   | 5.0  | 4.1  | 4.6  | 4.5  | 4.8  | 3.3  | 3.5  | 4.3  | 4.4  | 5.2  | 6.1  | 4.3  | 4.7  | 5.5  | 5.9  | 5.5  | 4.4  | 4.3  | 4.1  | 3.5  | 3.2  | 3.3   | 3.5   |   |
|                           | WB        | 4.4   | 4.7  | 4.9  | 5.0  | 5.2  | 5.1  | 4.4  | 4.1  | 6.3  | 7.8  | 7.4  | 5.5  | 6.1  | 4.6  | 6.7  | 6.0  | 10.0 | 5.5  | 4.7  | 3.9  | 3.2  | 3.7  | 3.7   | 3.7   |   |
|                           | BP        | .160  | .160 | .155 | .160 | .155 | .160 | .145 | .160 | .150 | .150 | .140 | .125 | .125 | .150 | .135 | .175 | .185 | .165 | .165 | .140 | .150 | .155 | .155  | .155  |   |
| Chiva Chiva (Forest Site) | PS        | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.28 | 0.42 | 0.40 | 0.19 | 0.50 | 0.27 | 0.03 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | • No monthly summary was computed for the ranges. |   |   |
|                           | WB        | 4.7   | 5.2  | 4.5  | 5.0  | 4.6  | 4.9  | 3.3  | 3.7  | 4.8  | 5.3  | 5.4  | 6.0  | 4.9  | 5.3  | 6.4  | 7.0  | 5.5  | 4.7  | 4.2  | 4.1  | 3.7  | 3.4  | 3.2   | 3.6   |   |
|                           | WB        | 4.6   | 5.0  | 4.1  | 4.6  | 4.5  | 4.8  | 3.3  | 3.5  | 4.3  | 4.4  | 5.2  | 6.1  | 4.3  | 4.7  | 5.5  | 5.9  | 5.5  | 4.4  | 4.3  | 4.1  | 3.5  | 3.2  | 3.3   | 3.5   |   |
|                           | WB        | 4.4   | 4.7  | 4.9  | 5.0  | 5.2  | 5.1  | 4.4  | 4.1  | 6.3  | 7.8  | 7.4  | 5.5  | 6.1  | 4.6  | 6.7  | 6.0  | 10.0 | 5.5  | 4.7  | 3.9  | 3.2  | 3.7  | 3.7   | 3.7   |   |
| (4.0 m)                   | WB        | 4.7   | 5.2  | 4.5  | 5.0  | 4.6  | 4.9  | 3.3  | 3.7  | 4.8  | 5.3  | 5.4  | 6.0  | 4.9  | 5.3  | 6.4  | 7.0  | 5.5  | 4.7  | 4.2  | 4.1  | 3.7  | 3.4  | 3.2   | 3.6   | • No monthly summary was computed for the ranges. |
|                           | WB        | 4.6   | 5.0  | 4.1  | 4.6  | 4.5  | 4.8  | 3.3  | 3.5  | 4.3  | 4.4  | 5.2  | 6.1  | 4.3  | 4.7  | 5.5  | 5.9  | 5.5  | 4.4  | 4.3  | 4.1  | 3.5  | 3.2  | 3.3   | 3.5   |   |
|                           | WB        | 4.4   | 4.7  | 4.9  | 5.0  | 5.2  | 5.1  | 4.4  | 4.1  | 6.3  | 7.8  | 7.4  | 5.5  | 6.1  | 4.6  | 6.7  | 6.0  | 10.0 | 5.5  | 4.7  | 3.9  | 3.2  | 3.7  | 3.7   | 3.7   |   |
|                           | BP        | .160  | .160 | .155 | .160 | .155 | .160 | .145 | .160 | .150 | .150 | .140 | .125 | .125 | .150 | .135 | .175 | .185 | .165 | .165 | .140 | .150 | .155 | .155  | .155  |   |
| (2.0 m)                   | PS        | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.28 | 0.42 | 0.40 | 0.19 | 0.50 | 0.27 | 0.03 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | • No monthly summary was computed for the ranges. |   |   |
|                           | WB        | 4.7   | 5.2  | 4.5  | 5.0  | 4.6  | 4.9  | 3.3  | 3.7  | 4.8  | 5.3  | 5.4  | 6.0  | 4.9  | 5.3  | 6.4  | 7.0  | 5.5  | 4.7  | 4.2  | 4.1  | 3.7  | 3.4  | 3.2   | 3.6   |   |
|                           | WB        | 4.6   | 5.0  | 4.1  | 4.6  | 4.5  | 4.8  | 3.3  | 3.5  | 4.3  | 4.4  | 5.2  | 6.1  | 4.3  | 4.7  | 5.5  | 5.9  | 5.5  | 4.4  | 4.3  | 4.1  | 3.5  | 3.2  | 3.3   | 3.5   |   |
|                           | WB        | 4.4   | 4.7  | 4.9  | 5.0  | 5.2  | 5.1  | 4.4  | 4.1  | 6.3  | 7.8  | 7.4  | 5.5  | 6.1  | 4.6  | 6.7  | 6.0  | 10.0 | 5.5  | 4.7  | 3.9  | 3.2  | 3.7  | 3.7   | 3.7   |   |
| (0.5 m)                   | WB        | 4.7   | 5.2  | 4.5  | 5.0  | 4.6  | 4.9  | 3.3  | 3.7  | 4.8  | 5.3  | 5.4  | 6.0  | 4.9  | 5.3  | 6.4  | 7.0  | 5.5  | 4.7  | 4.2  | 4.1  | 3.7  | 3.4  | 3.2   | 3.6   | • No monthly summary was computed for the ranges. |
|                           | WB        | 4.6   | 5.0  | 4.1  | 4.6  | 4.5  | 4.8  | 3.3  | 3.5  | 4.3  | 4.4  | 5.2  | 6.1  | 4.3  | 4.7  | 5.5  | 5.9  | 5.5  | 4.4  | 4.3  | 4.1  | 3.5  | 3.2  | 3.3   | 3.5   |   |
|                           | WB        | 4.4   | 4.7  | 4.9  | 5.0  | 5.2  | 5.1  | 4.4  | 4.1  | 6.3  | 7.8  | 7.4  | 5.5  | 6.1  | 4.6  | 6.7  | 6.0  | 10.0 | 5.5  | 4.7  | 3.9  | 3.2  | 3.7  | 3.7   | 3.7   |   |
|                           | BP        | .160  | .160 | .155 | .160 | .155 | .160 | .145 | .160 | .150 | .150 | .140 | .125 | .125 | .150 | .135 | .175 | .185 | .165 | .165 | .140 | .150 | .155 | .155  | .155  |   |
| Chiva Chiva (Open Site)   | PS        | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.28 | 0.42 | 0.40 | 0.19 | 0.50 | 0.27 | 0.03 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | • No monthly summary was computed for the ranges. |   |   |
|                           | WB        | 4.7   | 5.2  | 4.5  | 5.0  | 4.6  | 4.9  | 3.3  | 3.7  | 4.8  | 5.3  | 5.4  | 6.0  | 4.9  | 5.3  | 6.4  | 7.0  | 5.5  | 4.7  |      |      |      |      |   |   |   |

**SUMMARY OF METEOROLOGICAL OBSERVATIONS**  
**HOURLY DATA**

MAY 1967

| Site  | Level  | Monthly Means of Wind Speed by Hour<br>(miles/hr.) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     | Monthly Summary |      |      |      |
|---|--------|--|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|-----------------|------|------|------|
|   |        | 01   | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24  | No. of Obs.     | Min. | Mean | Max. |
|   | 46.0 m | 3  | 4  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 4  | 5  | 6  | 5  | 6  | 6  | 6  | 6  | 5  | 5  | 5  | 4  | 4  | 744 | 0               | 4    | 15   |      |
|   | 28.5 m |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |                 |      |      |      |
|   | 26.5 m | 1  | 2  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 2  | 1  | 2  | 2  | 3  | 2  | 3  | 3  | 3  | 3  | 2  | 2  | 3  | 2  | 2   | 744             | 0    | 2    | 10   |
|   | 13.5 m |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |                 |      |      |      |
|   | 8.0 m  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |                 |      |      |      |
|   | 4.0 m  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 744             | 0    | 0    | 2    |
|   | 2.0 m  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |                 |      |      |      |
|   | 1.0 m  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |                 |      |      |      |
|   | 0.5 m  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |                 |      |      |      |
| Albrook (Forest site)                                       |        |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |                 |      |      |      |
| This level was not instrumented for wind speed at this time |        |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |                 |      |      |      |

| Site  | Level  | Monthly Means of Wind Speed by Hour<br>(miles/hr.) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | Monthly Summary |      |      |      |    |    |
|---|--------|--|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----------------|------|------|------|----|----|
|   |        | 01   | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | No. of Obs.     | Min. | Mean | Max. |    |    |
|   | 46.0 m | 8  | 7  | 6  | 6  | 6  | 6  | 6  | 6  | 6  | 7  | 8  | 8  | 9  | 10 | 10 | 12 | 10 | 10 | 11 | 9  | 10 | 8  | 9  | 8  | 8               | 7    | 739  | 1    | 8  | 22 |
|   | 28.5 m |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                 |      |      |      |    |    |
|   | 26.5 m | 5  | 5  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 6  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 7  | 7  | 6  | 6  | 6  | 6  | 5               | 568  | 0    | 6    | 21 |    |
|   | 13.5 m | 2  | 2  | 1  | 2  | 1  | 2  | 1  | 2  | 1  | 3  | 5  | 5  | 6  | 6  | 7  | 8  | 5  | 5  | 5  | 4  | 3  | 3  | 2  | 2  | 2               | 734  | 0    | 4    | 20 |    |
|   | 8.0 m  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                 |      |      |      |    |    |
|   | 4.0 m  | 3  | 2  | 2  | 2  | 2  | 2  | 3  | 4  | 5  | 5  | 6  | 6  | 6  | 7  | 6  | 6  | 6  | 5  | 5  | 4  | 4  | 4  | 3  | 3  | 3               | 669  | 0    | 4    | 15 |    |
|   | 2.0 m  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 2  | 3  | 3  | 4  | 4  | 5  | 5  | 3  | 3  | 3  | 2  | 2  | 1  | 1  | 1  | 1  | 1  | 1               | 735  | 0    | 2    | 13 |    |
|   | 1.0 m  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                 |      |      |      |    |    |
|   | 0.5 m  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                 |      |      |      |    |    |
| Chirva Chirva (Open site)                                   |        |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                 |      |      |      |    |    |
| This level was not instrumented for wind speed at this time |        |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                 |      |      |      |    |    |

## SUMMARY OF METEOROLOGICAL OBSERVATIONS IN 1947

## HOURLY DATA

MAX 1967

14 Note: DTF indicates data of doubtful validity

- \* No monthly summary was computed for the ranges.

## ALBROOK (Forest site) MAY 1967

| Dir. | Relative Frequencies* of Wind Directions by Hour at 46.0 m.<br>(%) |      |      |      |      |      |      |      |      |      |      |      |
|------|--|------|------|------|------|------|------|------|------|------|------|------|
|      | Hr. 01   | 02   | 03   | 04   | 05   | 06   | 07   | 08   | 09   | 10   | 11   | 12   |
| N    | 3.2  | 3.2  |      |      |      |      |      | 6.4  | 16.1 | 16.6 | 13.3 | 10.0 |
| NNE  |  |      |      |      |      |      |      | 3.3  | 13.3 | 3.3  | 6.4  | 6.4  |
| NE   |  |      |      |      |      |      |      | 6.6  | 3.3  | 6.4  | 3.3  | 6.4  |
| ENE  |  |      |      |      |      |      |      | 3.2  | 6.4  |      |      |      |
| E    |  |      |      |      |      |      |      | 3.2  | 6.6  |      |      |      |
| ESE  |  |      |      |      |      |      |      | 3.3  |      |      |      |      |
| SE   |  |      |      |      |      |      |      |      | 6.6  |      |      |      |
| SSE  |  |      |      |      |      |      |      |      |      | 3.3  | 3.2  | 3.2  |
| S    |  |      |      |      |      |      |      |      |      | 10.0 | 6.6  | 13.3 |
| SSW  |  |      |      |      |      |      |      |      |      |      | 3.2  | 3.2  |
| SW   |  |      |      |      |      |      |      |      |      |      | 6.4  | 9.7  |
| WSW  | 9.7  | 19.4 | 22.6 | 6.4  | 12.9 | 9.7  | 3.2  | 6.4  | 6.4  | 6.6  | 3.3  | 6.4  |
| W    | 38.7   | 41.9 | 25.6 | 41.9 | 25.8 | 38.7 | 32.2 | 25.6 | 16.1 | 10.0 | 16.6 | 16.6 |
| WNW  | 6.4  | 12.9 | 6.4  | 6.4  | 9.7  | 3.2  | 6.4  | 3.2  | 10.0 | 6.6  | 10.0 | 3.3  |
| NW   | 6.4  | 6.4  | 9.7  | 12.9 | 6.4  | 12.9 | 9.7  | 3.2  | 3.3  | 25.3 | 3.3  | 6.4  |
| NNW  | 3.2  |      | 3.2  | 6.4  | 3.2  | 6.4  | 3.3  | 6.6  | 3.3  | 13.3 | 3.2  |      |
| CALM | 3.2  | 19.4 | 32.2 | 32.2 | 41.9 | 35.5 | 32.2 | 33.2 | 13.3 | 23.3 | 12.9 | 16.1 |

\* Note: Due to rounding, percentage totals do not equal 100%.

## ALBROOK (Forest site) MAY 1967

Relative Frequencies\* of Wind Directions by Hour at 26.5 m.  
(%)

| Dir. | He.  | 01   | 02   | 03   | 04   | 05   | 06   | 07   | 08   | 09   | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   | 18   | 19   | 20   | 21   | 22   | 23   | 24  |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|
| N    |      |      |      |      |      | 3.2  |      | 3.2  | 3.2  | 16.1 | 3.2  | 6.4  | 3.2  |      |      | 6.4  |      | 6.4  | 3.2  |      |      |      |      | 3.2  |     |
| NNE  |      |      |      |      |      |      |      | 6.4  | 3.2  |      |      |      | 3.2  |      |      |      |      |      |      |      |      |      |      | 3.2  |     |
| NE   |      |      |      |      |      |      |      |      |      |      |      | 3.2  | 3.2  |      | 6.4  | 6.4  |      |      |      |      |      |      |      | 3.2  |     |
| ENE  |      |      |      |      |      |      |      |      |      |      | 3.2  |      |      |      |      |      |      |      |      |      |      |      |      |      |     |
| E    |      |      |      |      |      |      |      | 3.2  |      | 6.4  | 3.2  | 3.2  |      | 3.2  |      |      |      |      |      |      |      |      |      |      |     |
| ESE  |      |      |      |      |      |      |      |      |      |      |      | 3.2  | 3.2  |      |      |      |      |      |      |      |      |      |      |      |     |
| SE   |      |      |      |      |      |      |      | 3.2  |      |      |      |      |      | 3.2  |      |      |      |      |      |      |      |      |      |      |     |
| SSE  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |     |
| S    |      |      |      |      |      | 3.2  | 5.4  | 22.6 | 12.9 | 19.4 | 16.1 | 19.4 | 3.2  |      |      |      | 3.2  |      |      |      |      |      |      |      |     |
| SSW  |      |      |      |      |      | 3.2  | 3.2  |      |      |      |      |      | 3.2  |      |      |      |      |      |      |      |      |      |      |      |     |
| SW   |      |      |      |      |      |      | 3.2  |      |      |      |      | 12.9 | 9.7  |      | 3.2  |      |      |      |      |      |      |      |      |      | 3.2 |
| WSW  |      | 6.4  | 3.2  | 3.2  | 3.2  |      |      | 3.2  | 6.4  |      |      | 3.2  | 12.9 |      | 3.2  |      |      |      |      |      |      |      |      | 3.2  |     |
| W    | 9.7  | 19.4 | 16.1 | 3.2  | 16.1 | 6.4  | 12.9 | 6.4  | 6.4  | 3.2  | 3.2  | 6.4  | 12.9 | 9.7  | 29.0 | 9.7  | 9.7  | 19.4 | 16.1 | 9.7  | 16.1 | 9.7  |      |      |     |
| WNW  | 38.7 | 19.4 | 12.9 | 25.8 | 25.8 | 25.8 | 29.0 | 22.6 | 6.4  | 16.1 | 6.4  | 12.9 | 6.4  | 12.9 | 3.2  | 9.7  | 32.2 | 16.1 | 32.2 | 25.8 | 19.4 | 25.8 |      |      |     |
| NW   | 6.4  | 16.1 | 12.9 | 19.4 | 6.4  | 12.9 | 19.4 | 16.1 | 6.4  | 12.9 | 9.7  | 25.8 | 12.9 | 9.7  | 16.1 | 19.4 | 12.9 | 41.9 | 22.6 | 12.9 | 35.5 | 25.8 | 22.6 |      |     |
| NNW  | 6.4  |      |      |      |      |      |      |      | 6.4  | 6.4  | 3.2  | 3.2  | 3.2  | 9.7  | 16.1 | 9.7  | 6.4  | 3.2  | 3.2  | 9.7  | 3.2  | 3.2  | 6.4  |      |     |
| CALM | 45.2 | 32.2 | 48.4 | 45.2 | 48.4 | 45.2 | 45.2 | 35.5 | 48.4 | 32.2 | 45.2 | 22.6 | 41.9 | 22.6 | 29.0 | 29.0 | 19.4 | 25.8 | 22.6 | 29.0 | 19.4 | 22.6 | 33.2 | 33.2 |     |

\* Note: Due to rounding, percentage totals do not equal 100%.

## ALBROOK (Forest site) MAY 1967

| Dir. | Relative Frequencies* of Wind Directions by Hour at 4.0 m.<br>( % ) |      |       |       |      |      |       |       |      |      |      |      |      |      |      |      |      |      |      |      |      |       |       |      |  |
|------|---|------|-------|-------|------|------|-------|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|------|--|
|      | 01  | 02   | 03    | 04    | 05   | 06   | 07    | 08    | 09   | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   | 18   | 19   | 20   | 21   | 22    | 23    | 24   |  |
| N    | 3.2   |      |       |       |      |      |       |       |      |      |      |      |      |      |      |      |      |      |      |      |      |       |       |      |  |
| NNE  |   |      |       |       |      |      |       |       |      |      |      |      |      |      |      |      |      |      |      |      |      |       |       |      |  |
| NE   |   |      |       |       |      |      |       |       |      |      |      |      |      |      |      |      |      |      |      |      |      |       |       |      |  |
| ENE  |   |      |       |       |      |      |       |       |      |      |      |      |      |      |      |      |      |      |      |      |      |       |       |      |  |
| E    |   |      |       |       |      |      |       |       |      |      |      |      |      |      |      |      |      |      |      |      |      |       |       |      |  |
| ESE  |   |      |       |       |      |      |       |       |      |      |      |      |      |      |      |      |      |      |      |      |      |       |       |      |  |
| SE   |   |      |       |       |      |      |       |       |      |      |      |      |      |      |      |      |      |      |      |      |      |       |       |      |  |
| SSE  |   |      |       |       |      |      |       |       |      |      |      |      |      |      |      |      |      |      |      |      |      |       |       |      |  |
| S    |   |      |       |       |      |      |       |       |      |      |      |      |      |      |      |      |      |      |      |      |      |       |       |      |  |
| SSW  |   |      |       |       |      |      |       |       |      |      |      |      |      |      |      |      |      |      |      |      |      |       |       |      |  |
| SW   |   |      |       |       |      |      |       |       |      |      |      |      |      |      |      |      |      |      |      |      |      |       |       |      |  |
| WSW  |   |      |       |       |      |      |       |       |      |      |      |      |      |      |      |      |      |      |      |      |      |       |       |      |  |
| W    | 3.2   |      |       |       |      |      |       |       |      |      |      |      |      |      |      |      |      |      |      |      |      |       |       |      |  |
| WNW  |   |      |       |       |      |      |       |       |      |      |      |      |      |      |      |      |      |      |      |      |      |       |       |      |  |
| NW   | 3.2   |      |       |       |      |      |       |       |      |      |      |      |      |      |      |      |      |      |      |      |      |       |       |      |  |
| NNW  |   |      |       |       |      |      |       |       |      |      |      |      |      |      |      |      |      |      |      |      |      |       |       |      |  |
| CALM | 93.5  | 96.8 | 100.0 | 100.0 | 96.8 | 96.8 | 100.0 | 100.0 | 96.8 | 90.3 | 83.9 | 87.1 | 93.5 | 96.8 | 93.5 | 87.1 | 83.9 | 93.5 | 96.8 | 93.5 | 96.8 | 100.0 | 100.0 | 96.8 |  |

\* Note: Due to rounding, percentage totals do not equal 100%.

CHIVA CHIVA (Open site) MAY 1967

| Dir. | Hr.  | Relative Frequencies* of Wind Directions by Hour at 46.0 m.<br>(%) |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |     |  |
|------|------|--|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|--|
|      |      | 01   | 02   | 03   | 04   | 05   | 06   | 07   | 08   | 09   | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   | 18   | 19   | 20   | 21   | 22   | 23   | 24  |  |
| N    | 3.2  | 3.2  | 3.3  | 3.3  | 6.6  | 6.6  | 9.7  | 7    | 9.7  | 9.7  | 12.9 | 3.2  | 9.7  | 9.7  | 6.4  | 6.4  | 3.2  | 3.2  | 3.2  | 3.2  | 3.2  | 3.2  | 3.2  | 6.4  |     |  |
| NNE  |      |  |      |      | 3.3  | 3.3  |      |      | 6.4  | 6.4  | 6.4  | 3.2  | 3.2  | 6.4  |      |      | 3.2  | 3.2  |      |      |      |      |      | 3.2  |     |  |
| NE   |      |  |      |      | 6.6  |      | 3.2  |      |      | 3.2  | 3.2  | 12.9 | 6.4  | 3.2  |      |      | 3.2  |      |      |      |      |      |      |      |     |  |
| ENE  |      |  |      |      | 3.3  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |     |  |
| E    |      |  |      |      | 3.3  |      |      |      |      |      |      |      |      |      |      |      | 6.4  | 3.2  |      |      |      |      |      |      |     |  |
| ESE  |      |  |      |      |      |      |      |      | 3.2  |      | 3.7  |      | 3.2  | 3.2  | 3.2  |      |      |      |      |      |      |      |      |      |     |  |
| SE   |      |  |      |      |      |      |      |      |      |      | 3.2  | 6.4  | 3.2  | 6.4  | 3.2  |      |      |      |      |      |      |      |      |      |     |  |
| SSE  |      |  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |     |  |
| S    |      |  |      |      | 3.3  | 3.3  |      |      | 3.2  |      | 3.2  | 9.7  | 3.2  | 3.2  |      |      |      |      |      |      |      |      |      |      |     |  |
| SSW  | 6.4  |  |      |      |      |      |      |      | 3.2  | 2    | 9.7  |      |      |      |      |      | 3.2  | 6.4  |      |      |      |      |      |      | 3.2 |  |
| SW   | 3.2  | 3.2  | 6.6  | 3.3  | 3.3  |      |      |      |      | 6.4  |      | 6.4  | 3.2  | 6.4  | 6.4  |      |      |      |      |      |      |      |      |      |     |  |
| WSW  | 3.2  | 6.4  | 6.6  |      | 10.0 |      |      |      | 3.2  | 3.2  | 6.4  |      |      | 6.4  | 3.2  |      |      |      |      |      |      |      |      |      | 3.2 |  |
| W    | 6.4  | 12.9   | 6.6  | 13.3 |      | 3.3  | 6.6  | 9.7  | 6.4  | 9.7  | 12.9 | 9.7  | 3.2  | 9.7  | 6.4  | 9.7  | 3.2  |      |      |      |      |      |      |      | 6.4 |  |
| WNW  | 12.9 | 9.7  | 16.6 | 13.3 | 16.6 | 26.1 | 23.3 | 16.1 | 11.4 | 9.7  | 9.7  | 16.1 | 19.4 | 3.2  | 16.1 | 22.6 | 22.6 | 16.1 | 12.9 | 3.2  | 3.2  | 9.7  | 16.1 | 22.6 |     |  |
| NW   | 48.4 | 51.6   | 43.2 | 46.6 | 46.3 | 43.2 | 39.9 | 48.4 | 5    | 32.2 | 25.8 | 22.6 | 3.2  | 25.8 | 16.1 | 29.0 | 58.1 | 61.3 | 61.3 | 58.1 | 61.3 | 48.4 | 51.6 |      |     |  |
| NNW  | 16.1 | 12.9   | 13.3 | 16.6 | 10.0 | 20.0 | 19.4 | 19.4 | 16.1 | 12.9 | 9.7  | 25.8 | 19.4 | 22.6 | 16.1 | 6.4  | 16.1 | 16.1 | 25.8 | 29.0 | 19.4 | 29.0 | 16.1 |      |     |  |
| CALM |      |  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |     |  |

\* Note: Due to rounding, percentage totals do not equal 100%.

CHIVA CHIVA (Open site) MAY 1967

| Dir. | Relative Frequencies* of Wind Directions by Hour at 26.5 m.<br>( % ) |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|------|--|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|      | Hr. 01   | 02   | 03   | 04   | 05   | 06   | 07   | 08   | 09   | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   | 18   | 19   | 20   | 21   | 22   | 23   | 24   |
| N    | 3.3  | 16.6 | 6.6  | 16.6 | 16.6 | 23.3 | 6.8  | 20.0 | 19.4 | 19.4 | 16.6 | 10.0 | 16.6 | 20.0 | 16.6 | 20.0 | 20.0 | 33.2 | 23.3 | 23.3 | 20.0 | 29.9 | 16.6 |      |
| NNE  |  |      |      |      |      |      |      |      |      | 6.8  | 10.0 | 3.2  | 6.4  | 10.0 | 6.6  | 6.6  | 10.0 | 3.3  | 3.3  | 6.6  | 3.3  | 3.3  | 6.5  | 6.6  |
| NE   |  | 3.3  |      |      | 3.3  | 3.3  | 3.4  | 3.3  | 9.7  | 9.7  | 3.3  | 16.6 | 6.6  | 10.0 | 3.3  | 3.3  | 3.3  |      |      |      | 3.3  | 6.6  |      |      |
| ENE  |  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| E    |  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| ESE  |  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| SE   |  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| SSE  |  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| S    |  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| SSW  |  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| SW   | 6.6  | 6.6  | 3.3  | 6.6  | 3.3  | 3.3  |      |      |      | 3.2  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| WSW  | 6.6  | 3.3  | 3.3  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| W    | 6.6  | 6.6  | 3.3  | 16.6 | 3.3  | 3.3  | 6.6  | 3.4  | 6.6  | 3.2  | 6.4  |      | 3.3  | 6.6  | 3.3  | 10.0 | 3.3  |      |      |      |      |      |      |      |
| WNW  | 10.0   | 13.3 | 16.6 | 13.3 | 6.6  | 10.0 | 6.6  | 3.4  | 16.6 | 9.7  | 6.4  | 16.6 | 10.0 | 6.6  | 3.3  | 3.3  | 6.6  |      |      |      |      |      |      |      |
| NW   | 23.3   | 26.6 | 13.3 | 20.0 | 16.6 | 33.2 | 29.9 | 37.6 | 10.0 | 6.4  | 9.7  | 10.0 | 10.0 | 13.3 | 20.0 | 36.6 | 26.6 | 16.6 | 3.3  | 23.3 | 23.3 | 13.3 | 20.0 |      |
| NNW  | 43.2   | 26.6 | 49.8 | 36.6 | 20.0 | 23.3 | 20.0 | 34.1 | 33.2 | 38.7 | 22.6 | 23.3 | 20.0 | 16.6 | 20.0 | 16.6 | 33.2 | 46.6 | 46.6 | 39.9 | 33.2 | 39.9 | 33.2 | 46.6 |
| CALM |  | 6.6  |      |      | 3.3  | 6.6  | 3.3  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |

\* Note: Due to rounding, percentage totals do not equal 100%.

## CHIVA CHIVA (Open site) MAY 1967

| Dir. | Relative Frequencies* of Wind Directions by Hour at 4.0 m.<br>( % ) |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |  |
|------|---|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--|
|      | 01  | 02   | 03   | 04   | 05   | 06   | 07   | 08   | 09   | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   | 18   | 19   | 20   | 21   | 22   | 23   | 24   |  |
| N    | 6.4   | 3.2  | 3.2  | 6.4  | 6.4  | 9.7  | 6.5  | 9.7  | 9.7  | 10.0 | 3.3  | 6.6  | 9.7  | 12.9 | 3.2  | 12.9 | 9.7  | 12.9 | 16.1 | 9.7  | 6.4  | 3.2  |      |      |  |
| NNNE |   | 3.2  | 6.4  | 3.2  | 3.2  | 3.3  |      | 3.2  | 6.4  |      | 3.3  | 10.0 |      | 3.2  | 12.9 | 3.2  |      |      | 3.2  |      | 3.2  |      | 6.4  |      |  |
| NE   |   | 6.4  | 6.4  | 6.4  |      |      |      |      | 6.4  | 10.0 | 6.6  | 10.0 | 6.4  | 3.2  | 3.2  |      |      |      | 3.2  |      |      | 3.2  |      |      |  |
| ENE  |   | 6.4  |      |      |      |      |      | 3.2  |      |      |      | 3.3  | 3.3  |      | 3.2  |      |      |      |      |      |      |      |      |      |  |
| E    |   |      |      |      |      |      |      |      |      |      | 3.3  | 3.3  |      |      |      |      |      |      |      |      |      |      |      | 3.2  |  |
| ESE  |   |      | 3.2  |      |      |      |      |      |      | 3.3  |      | 3.3  | 6.4  |      |      |      |      |      |      |      |      |      |      |      |  |
| SE   |   | 3.2  |      |      | 6.4  | 3.2  |      |      | 3.2  |      |      | 6.6  |      | 3.2  | 3.2  |      |      |      |      |      |      |      |      | 3.2  |  |
| SSE  |   | 3.2  |      |      |      | 3.2  |      |      |      |      |      |      | 3.3  |      |      |      |      |      |      |      |      |      |      |      |  |
| S    | 6.4   |      |      | 6.4  |      |      |      | 3.2  | 9.7  |      | 3.3  | 10.0 | 6.4  |      | 3.2  |      |      | 3.2  |      | 3.2  |      |      |      |      |  |
| SSW  | 6.4   |      | 3.2  |      | 3.2  |      |      | 3.2  |      |      | 3.3  |      |      |      | 3.2  |      |      |      |      |      |      |      |      | 3.2  |  |
| SW   |   | 12.9 | 9.7  | 6.4  | 6.4  | 3.3  | 3.2  |      | 3.2  | 10.0 | 3.3  | 6.6  |      | 6.4  | 6.4  |      |      |      |      |      | 3.2  | 3.2  |      | 3.2  |  |
| WSW  |   | 3.2  |      |      |      |      | 10.0 | 3.2  | 6.4  | 9.7  | 6.6  | 6.6  |      | 9.7  | 6.4  | 6.4  |      | 3.2  |      |      | 3.2  | 3.2  | 3.2  | 3.2  |  |
| W    | 6.4   | 6.4  | 6.4  | 12.9 | 3.2  | 3.2  |      | 12.9 |      | 10.0 | 10.0 | 6.6  |      | 3.2  | 9.7  | 3.2  | 9.7  |      |      | 3.2  | 6.4  |      | 3.2  | 9.7  |  |
| WNW  | 12.9  | 9.7  | 9.7  | 12.9 | 6.4  | 3.2  | 20.0 | 25.8 | 6.4  | 6.4  | 13.3 | 6.6  | 16.1 | 16.1 | 19.4 | 9.7  | 9.7  | 16.1 | 9.7  | 9.7  | 12.9 | 9.7  |      |      |  |
| NW   | 32.2  | 32.2 | 22.6 | 19.4 | 38.7 | 16.6 | 29.0 | 32.2 | 38.7 | 16.6 | 23.3 | 20.0 | 17.9 | 12.9 | 22.6 | 32.2 | 45.2 | 41.9 | 32.2 | 41.9 | 48.4 | 32.2 | 41.9 |      |  |
| NNW  | 19.4  | 19.4 | 6.4  | 12.9 | 12.9 | 6.4  | 20.0 | 22.6 | 19.4 | 9.7  | 16.6 | 13.3 | 16.6 | 19.4 | 19.4 | 19.4 | 32.2 | 19.4 | 25.8 | 19.4 | 16.1 | 12.9 | 25.8 | 19.4 |  |
| CALM | 3.2   | 16.1 | 12.9 | 9.7  | 22.6 | 19.4 | 16.6 |      |      |      |      |      |      | 3.2  | 3.2  | 3.2  |      |      |      | 3.2  | 3.2  | 6.4  | 3.2  |      |  |

\* Note: Due to rounding, percentage totals do not equal 100%.

## SUMMARY OF NON HOURLY DATA

MAY 1967

| Summary of Elements with Non-hourly Frequencies of Observation |   |                  |                |               |                     |               |
|--|---|------------------|----------------|---------------|---------------------|---------------|
| Site   | Element, Units and Exposure   | Description      | Number of Obs. | Minimum Value | Mean or Total Value | Maximum Value |
| Albrecht, (Forest site)  | WBGT Index <sup>1</sup><br>(at 1.0 meters)                                  | Index value      | 426            | 70.7          | 78.0                | 84.6          |
|  |   | Dry bulb temp.   | 426            | 71.0          | 79.6                | 91.5          |
|  |   | Wet bulb temp.   | 426            | 70.5          | 77.1                | 84.5          |
|  |   | Black bulb temp. | 426            | 71.1          | 80.5                | 91.5          |
|  | Evaporation <sup>3</sup><br>(in. at 4 levels)                               | Piche (46.0 m)   | 31             | 0.079         | 10.370*             | 0.659         |
|  |   | Piche (26.5 m)   | 31             | 0.049         | 7.606*              | 0.573         |
|  |   | Piche (13.5 m)   | 29             | 0.006         | 3.087*              | 0.232         |
|  |   | Piche ( 0.5 m)   | 29             | 0.006         | 1.521*              | 0.159         |
|  | Precipitation from<br>Raingauge Network <sup>2</sup><br>(in. at 1.0 meters) | Gauge # 1        | 21             | 0.01          | 8.27*               | 1.55          |
|  |   | Gauge # 2        | 23             | 0.01          | 9.33*               | 1.55          |
|  |   | Gauge # 3        | 24             | 0.01          | 11.07*              | 1.75          |
|  |   | Gauge # 4        | 23             | 0.01          | 12.05*              | 2.36          |
|  | Stem Flow <sup>3</sup>  | Gauge # 5        | 23             | 0.01          | 9.33*               | 1.25          |
|  |   | Gauge # 6        | 23             | 0.01          | 10.22*              | 1.60          |
|  |   | Gauge # 7        | 24             | 0.01          | 8.84*               | 1.61          |
|  |   | Gauge # 8        | 22             | 0.01          | 8.53*               | 1.45          |
|  | Cerro Chiray (Open site)  | Small tree       | 20             | 0.01          | 8.60*               | 1.47          |
|  |   | Medium tree      | 19             | 0.01          | 8.83*               | 1.54          |
|  |   | Large tree       | 17             | .01           | 238.29*             | 154.37        |
|  |   |                  |                |               |                     |               |
|  | WBGT Index <sup>1</sup><br>(at 1.0 meters)                                  | Index value      | 419            | 69.7          | 80.4                | 90.1          |
|  |   | Dry bulb temp.   | 419            | 70.0          | 82.3                | 94.6          |
|  |   | Wet bulb temp.   | 419            | 69.7          | 77.2                | 82.0          |
|  |   | Black bulb temp. | 419            | 69.1          | 90.8                | 121.3         |
|  | Evaporation <sup>3</sup><br>(in. at 0.5 meters)                             | Piche            | 31             | 0.049         | 6.901*              | 0.518         |
|  |   | Pan              | 31             | 0.013         | 5.331*              | 0.363         |
|  |   |                  |                |               |                     |               |
|  |   |                  |                |               |                     |               |
|  | Minimum Grass temp <sup>3</sup><br>(°F at grass tips)                       | None             | 23             | 68.1          | 72.8                | 75.7          |
|  |   |                  |                |               |                     |               |
|  |   |                  |                |               |                     |               |
|  |   |                  |                |               |                     |               |

1 - Hourly observations between 0600 and 1900 hours inclusive

\* Total Values

2 - Six hourly observations

3 - Daily observations

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| <p>This report contains detailed microclimatic data for May 1967 from specific sites in the Panama Canal Zone and vicinity. The data are presented in tabular form, summarized for hourly and/or daily observations from surface to 46-meter levels. Elements listed are: temperature, pressure, precipitation, wind speed and direction, relative humidity, and evaporation.</p> |  |   |

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